I570 Motherboard

Mini-ITX Fan SBC w/ Intel® Socket FC-PGA 478/FC-BGA 479 CPU, VGA, LCD, Giga Ethernet, Mini-PCI and PCI Slot Interface.

USER MANUAL Version 1.0

IMPORTANT NOTICE : The Euro CLS I570 motherboard can be used for a large range of panel PC's from 8.4" to 42".
In order to know the complete range of products we propose, please clic this link :

http://www.eurocls.com/product/Panel_PC/Intel_Pentium_M_-_Celeron_M/

FCC Statement

This device complies with part 15 FCC rules. Operation is subject to the following two conditions：

- This device may not cause harmful interference.
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class "a" digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful int erference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio c ommunications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at hi m own expense.

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Warranty

We warrant that each of its products will be free from material and workmanship defects for a period of one year from the invoice date. If the customer discovers a defect, We will, at its option, repair or replace the defective product at no charge to the customer, provided it is returned during the warranty period of one year, with transportation charges prepaid. The returned product must be properly packaged in its original packaging to obtain warranty service.

If the serial number and the product shipping data differ by over 30 days, the in-warranty service will be made according to the shipping date. In the serial numbers the third and fourth two digits give the year of manufacture, and the fifth digit means the month (e. g., with A for October, B for November and C for December).

For example, the serial number 1W07Axxxxxxxx means October of year 2007.

Packing List

Before using this Motherboard, please make sure that all the items listed below are present in your package：

- I570 Motherboard
- I570 SBC User Manual
- HDD IDE Cable
- User's Manual & Driver CD

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

Customer Service

We provide service guide for any problem as follow steps：First, visit the website at to find the update information about the product. Second, contact with your distributor, sales representative, or our customer service center for technical support if you need additional assistance. You may have the following information ready before you call：

- Product serial number
- Peripheral attachments
- Software (OS, version, application software, etc.)
- Description of complete problem
- The exact wording of any error messages

In addition, free technical support is available from our engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products. Please do not hesitate to call or e-mail us.

Safety Precautions

- **Warning!**

Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronic personnel should open the PC chassis.

- **Caution!**

Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

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Safety and Warranty

1. Please read these safety instructions carefully.
2. Please keep this user's manual for later reference.
3. Please disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
4. For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
12. Never pour any liquid into an opening. This could cause fire or electrical shock.
13. Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
14. If any of the following situations arises, get the equipment checked by service personnel:
    A. The power cord or plug is damaged.
    B. Liquid has penetrated into the equipment.
    C. The equipment has been exposed to moisture.
    D. The equipment does not work well, or you cannot get it to work according to the user's manual.
    E. The equipment has been dropped and damaged.
    F. The equipment has obvious signs of breakage.
15. Do not leave this equipment in an uncontrolled environment where the storage temperature is below -20° C (-4°F) or above 60° C (140° F). It may damage the equipment.

Revision History

Version	Date	Note	Author
0.1	2008.01.16	✓ Initial Draft	Aladin Huang
1.0	2008.02.25	✓ First version	Aladin Huang

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CHAPTER 1

General Information

This chapter includes I570 Motherboard background information.

Sections include:

- Introduction
- Feature
- Motherboard Specification
- Function Block
- Board Dimensions

Chapter 1 General Information

1.1 Introduction

I570 SBC is equipped with Intel 855GME North Bridge and Intel ICH4 South Bridge which are designed for use with Intel's mobile platform. Intel's 855GME platform delivers the performance and high scalability cutting-edge embedded computing application.

In peripheral connectivity, I570 SBC with one PCI slot and Mini-PCI I/O ports, two PATA connectors, and six Hi-Speed USB connectors.

Thus, I570 SBC is designed to satisfy most of the applications in the industrial computer market, such as Gaming, POS, KIOSK, Industrial Automation, and Programmable Control System. It is a compact design to meet the demanding performance requirements of today's business and industrial applications.

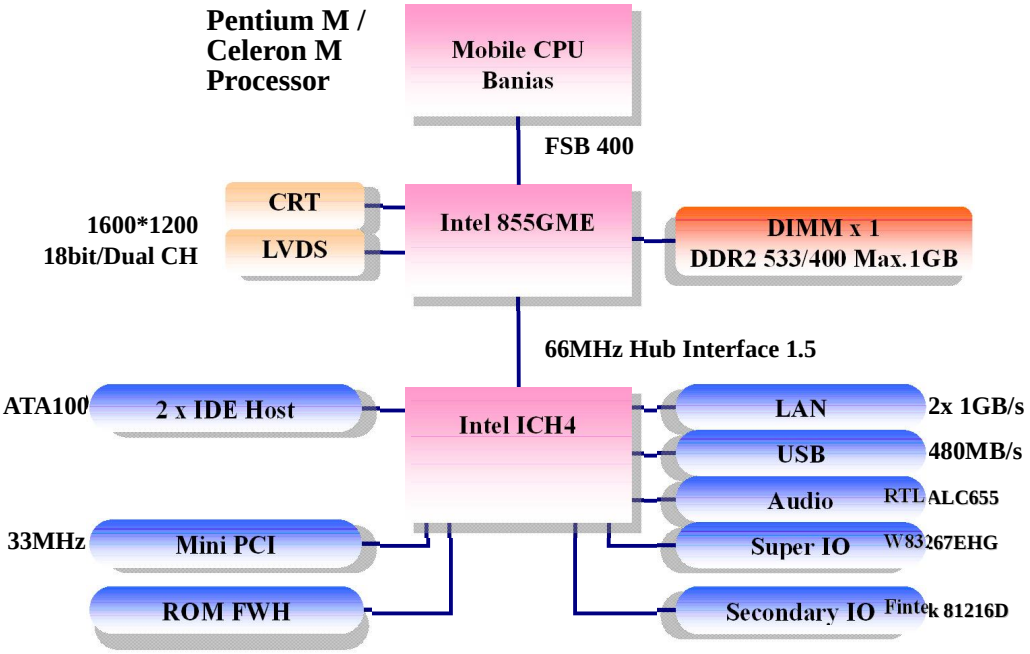
1.2 Feature

- Mini-ITX Form Factor (170mm x 170mm)
- Supports Socket FC-PGA 478/FC-BGA 479 Intel® Pentium M / Celeron M processors
- System memory up to 1GB DDR 200/266/333, 1xDIMM
- Integrated Intel 855GME + ICH4 Chipset
- Intel® extreme Graphics 2 Integrated 64MB shared supports VGA
- Dual Gigabit Ethernet (Dual Fast Ethernet optional)
- 1 x PCI slot, 1 x Mini PCI, 4 x COM, 6 x USB2.0, 1 x CF(Optional)
  2 x PATA(1 x 40 pins IDE1 1 x 44 pins IDE2)

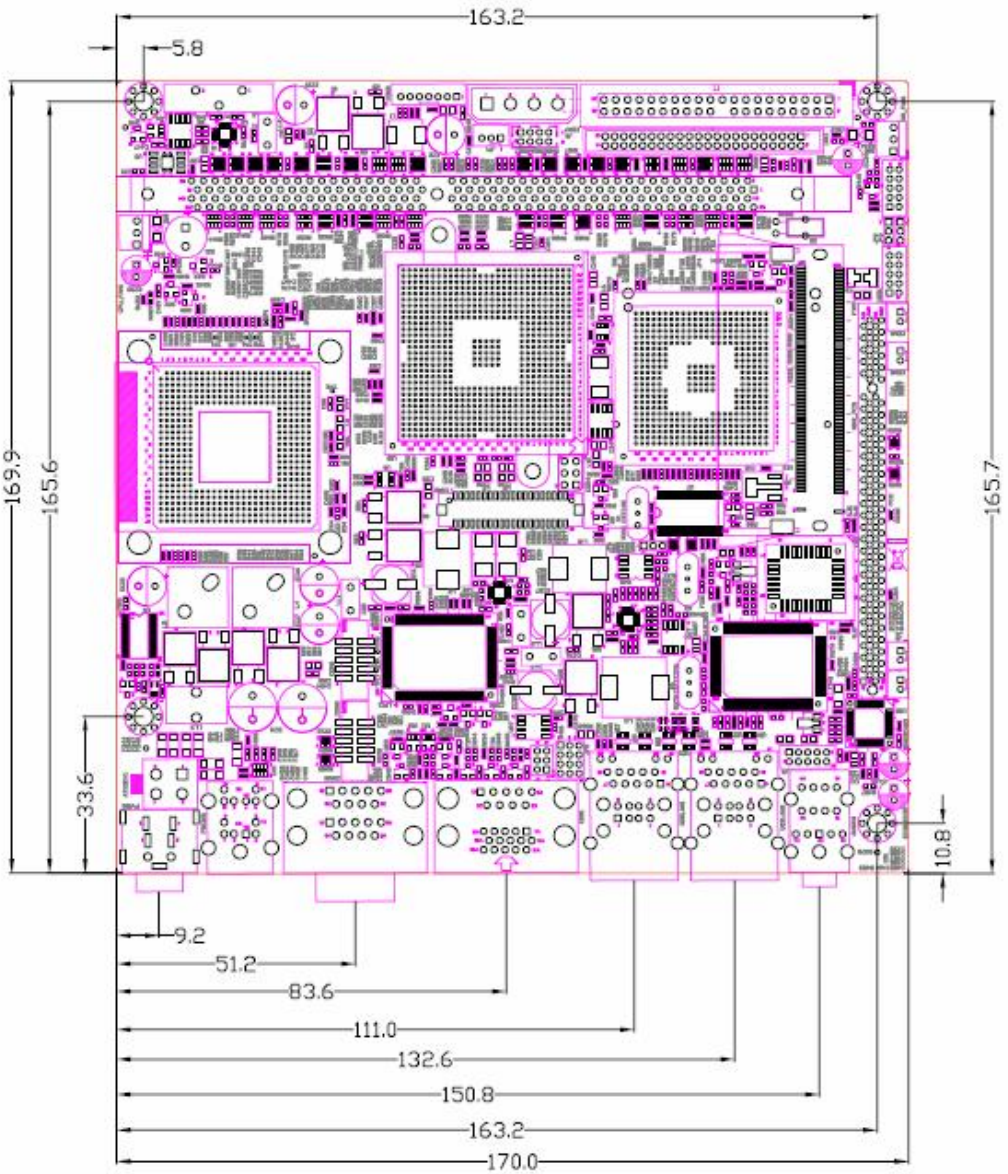
1.3 Motherboard Specifications

CPU Type	Intel l® Pentiun M/ Celeron M Processor
CPU FSB	400 MHz
CPU Socket	Intel Socket FC-PGA 478/ FC-BGA 479
Chipset	Intel 855GME / ICH4
BIOS	Award 4Mbit Flash
VGA	Intel® extreme Graphics 2 64MB shared with system memory
LVDS	Intel® 82855GME built in single- or Dual-channel panel support up to 1600 x 1200, 24bit
LAN	2 x Giga LAN (Dual Realtek RTL8110SCL Controller) 2 x Fast LAN(Dual Realtek RTL8110S Controller) (optional)
Memory Type	1 x DDR DIMM socket, supports up to 1GB DDR 200/266/333 SDRAM
LPC I/O	Winbond W83627EHG integrated hardware monitoring
Keyboard/Mouse	2 x PS/2 Keyboard/Mouse connectors
IDE Interface	Dual channels; supports Ultra DMA 33/66/100
Sound	Realtek ALC655 (Line-in, Line-out, Mic in)
USB	6 ports, USB 2.0 (4 x USB Connector, 2 x USB pin-header)
Edge Connectors	1 x +12V DC-IN Jack 2 x PS/2 connector for keyboard/mouse 2 x DB9 for COM3 & COM4 1 x VGA out connector + 1 x DB9 for COM1 2 x Gigabit LAN RJ-45 + 1 x dual USB stack connector 1 x Audio Jack for Audio (Line-in, Line-Out, Mic-in)
On Board Pin-Header Connectors	1 x 44 pins box-header 1 x 40 pins box-header 1 x 10pins pin-header for Front Panel(2x5) 1 x 3pins pin-header for CPU Fan 1 x 3pins pin-header for System FAN 1 x 8pins pin-header for 5V/12V external power 1 x 4pins connector for 12V/5V external power 1 x 2pins pin-header for 5V external power 1 x 2pins pin-header for 12V external power 1 x 4pins ATX 12V connector 2 x 2pins pin-header for Front Audio (with Amp.) 1 x 10pins pin-header for Front Audio(without Amp.)(2x5) 1 x 10pins pin-header for USB 5/6(2x5) 1 x 10pins pin-header for COM2(RS232)(2x5) 1 x 40pins DF13 Connector for LVDS 1 x 3pins digital panel backlight brightness controller 1 x 7pins digital panel backlight controller 1 x 10pins pin-header for DIO(2x5)
Power Connector	Input: 4-pin ATX 12V Power input
Expansion Slots	1 x PCI, 1 x Mini-PCI
Form Factor	Mini-ITX
Dimensions	170mm x 170mm
Mechanical & environmental	Operating temperature: 0 deg. C to 60 deg. C Operating Humidity: 30 ~ 90% Relative humidity, non-condensing Certification: CE, FCC, RoHS

1.4 Function Block



1.5 Board dimensions



CHAPTER 2

Installations

This chapter provides information on how to use the jumps and connectors on I570 Motherboard.
The Sections include:

- Memory Module Installation
- I / O Equipment Installation
- Setting the Jumpers
- Connectors on I570 Motherboard

Chapter 2 Installations

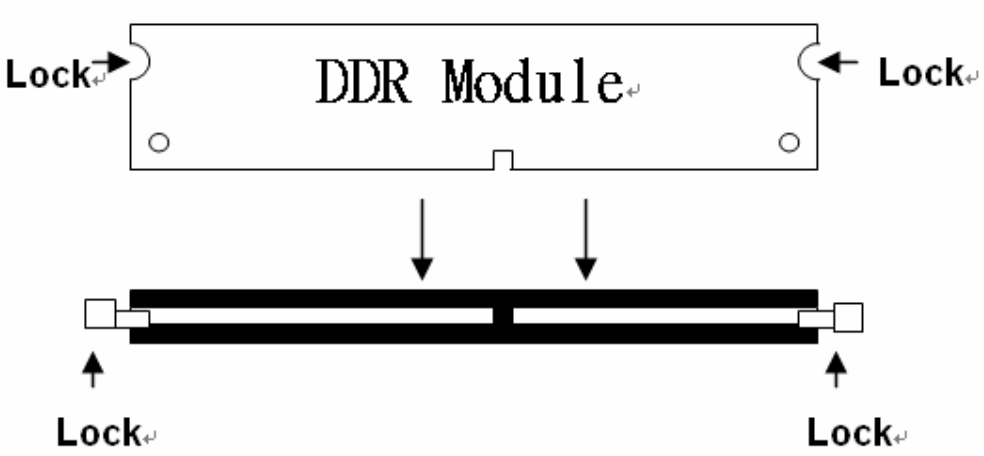
2.1 Memory Module（DIMM）Installation

I570 motherboard supports one DDR memory socket for a maximum total memory of 1GB in DDR memory type.

2.1.1 Installing and Removing Memory Modules

To install the DDR modules, locate the memory slot on the board and perform the following steps:

1. Hold the DDR module so that the key of the DDR module align with those on the memory slot.
2. Gently push the DDR module in an upright position until the clips of the slot close to hold the DDR module in place when the DDR module touches the bottom of the slot.
3. To remove the DDR module, press the clips with both hands.



2.2 I/O Equipment Installation

2.2.1 12V DC-IN

The Motherboard allows plugging 12V DC-IN jack on the board without another power module converter under power consumption by Intel FC-PGA 478/ FC-BGA 479 processor in 855GME with ICH4 chipset.

2.2.2 PS/2 Keyboard and PS/2 Mouse

The Motherboard provides two PS/2 interface. The PS/2 connector supports Keyboard and Mouse. In other cases, especially in embedded applications, a mouse is not used. Therefore, the BIOS standard setup menu allows you to select* “All, But Keyboard” under the “Halt On”. This allows no-keyboard operation in embedded system applications without the system halting under POST.

2.2.3 Serial COM ports

Three RS-232 connectors build in the rear I/O. Fourth optional COM ports support RS-232. When an optional touch-screen is ordered with PPC, serial com port can connect to a serial or an optional touch-screen. One optional COM port supports RS232/422/485 choice through jumper setting.

2.2.4 Internal VGA

The Motherboard has one VGA port that can be connected to an external CRT/ LCD monitor. Use VGA cable to connect to an external CRT / LCD monitor, and connect the power cable to the outlet. The VGA connector is a standard 15-pin D-SUB connector.

2.2.5 Ethernet interface

The Motherboard is equipped with Dual Realtek RTL8110SCL or (Realtek RTL8110S 10/100 Mbps) chipsets which is fully compliant with the PCI 10/100/1000 Mbps Ethernet protocol compatible. It is supported by major network operating systems. The Ethernet ports provide two standard RJ-45 jacks.

2.2.6 USB ports

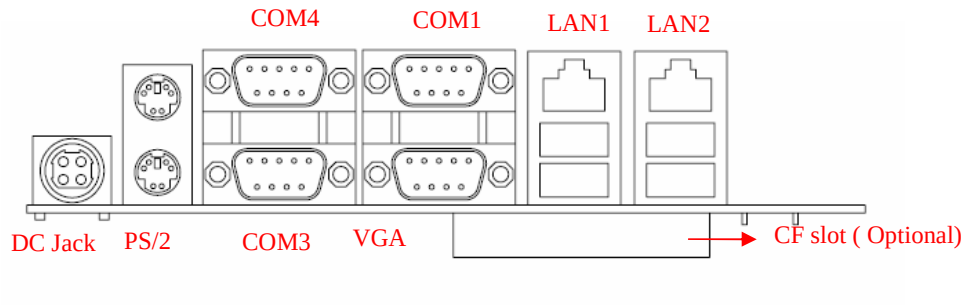
Six USB devices (four with pin headers) may be connected to the system though an adapter cable. Various adapters may come with USB ports. USB usually connect the external system to the system. The USB ports support hot plug-in connection. Whatever, you should install the device driver before you use the device.

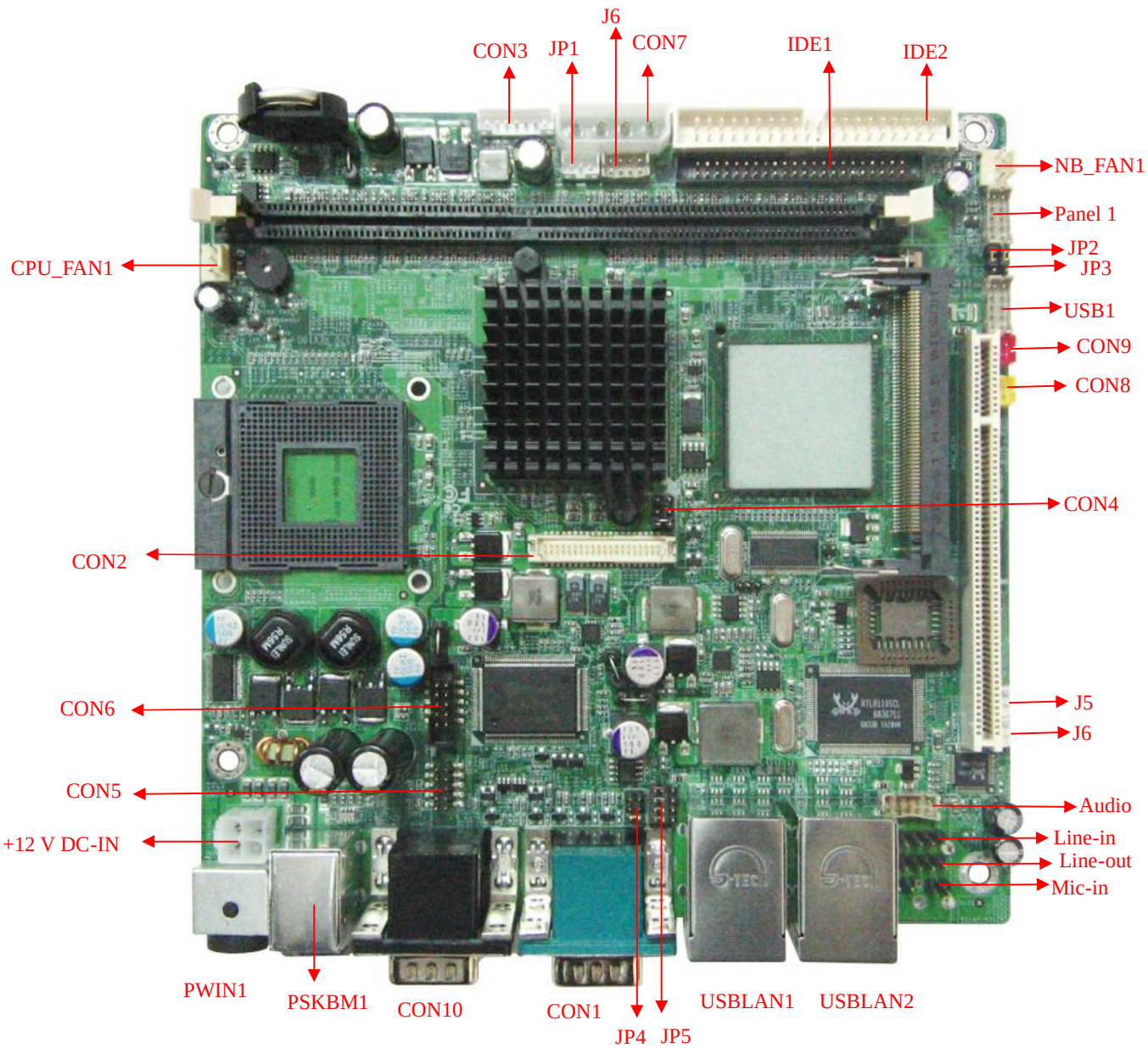
2.2.7 Audio Jack (Pin-header)

The Audio 5.1 channel capabilities are provided by a Realtek ALC655 chipset supporting digital audio outputs. The audio interface includes Mic-in,: line-in and line-out.

2.3 Jumpers and Connectors

TOP

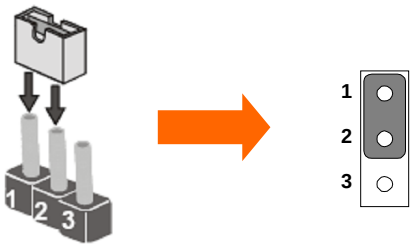




2.4 Jumper Setting

A pair of needle-nose pliers may be helpful when working with jumpers. If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes. Generally, you simply need a standard cable to make most connections.

The jumper setting diagram is as below. If a jumper shorts pin 1 and pin 2, the setting diagram is shown as the right one.

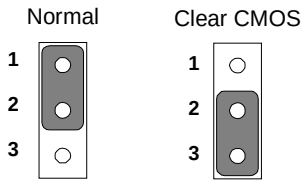


The following tables list the function of each of the board's jumpers.

Label	Function	Note
JP2	Clear CMOS	3x1 header , pitch 2.0mm
JP3	CF Card Priority	3x1 header , pitch 2.0mm
JP4	RS232 / RS422 / RS485 Selector	2x3 header , pitch 2.0mm
JP5	RS232 / RS422 / RS485 Selector	3x4 header , pitch 2.0mm
CON4	LVDS VOLTAGE	2x3 header , pitch 2.0mm

2.4.1 JP2: Clear CMOS

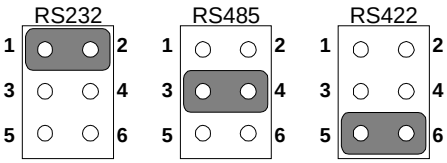
User must make sure the power supply to turn off the power supply before setting Clear CMOS. Users remember to setting jumper back to Normal before turning on the power supply. Default: 1 short 2.



Pin No.	Functions
1 Short 2	Normal
2 Short 3	Clear CMOS

JP4 : COM1 RS232 / RS422 / RS485 Function Selector

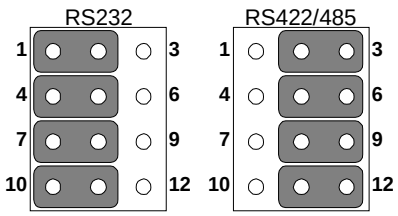
The jumper can be configured to operate COM1 in RS-232/422/485 mode. And the setting must be cooperated with the 2.4.2 settings. Default 1 short 2.



Pin No.	Functions
1 Short 2	RS232
3 Short 4	RS485
5 Short 6	RS422

2.4.2 JP5: RS232 / RS422 / RS485 Selector

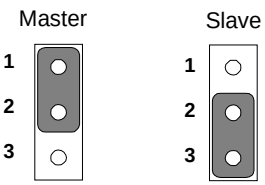
The jumper can be configured to operate COM1 in RS-232/422/485 mode. And the setting must be cooperated with JP4 settings.



RS232	RS422/485
1-2	2-3
4-5	5-6
7-8	8-9
10-11	11-12

2.4.3 JP3: CF Card Priority

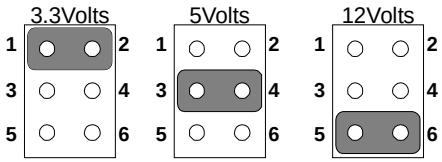
JP3 can be configured to operate CF Card Priority in Master/Slave mode.



Pin No.	Functions
1 Short 2	Master
2 Short 3	Slave

2.4.4 CON4: LCD Panel Voltage Select

CON4 can be configured to operate in 3.3Volts / 5Volts / 12Volts mode.



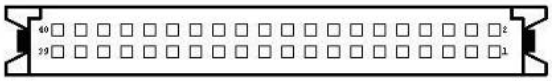
Pin No.	Functions
1 Short 2	3.3Volts Selected
3 Short 4	5Volts Selected
5 Short 6	12Volts Selected

2.5 Connectors and Pin Assignment

The table below lists the function of each of the board's connectors.

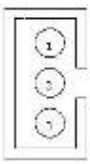
Label	Function	Note
CON2	LVDS LCD Output Connector	DF13-40DP-1.25V
JP1	Digital Panel Backlight Brightness Control	3x1 header, pitch 2.54mm
CON3	Inverter Connecter	7x1 header, pitch 2.54mm
PSKBM1	PS2 Keyboard/Mouse Connector	PS/2 Conn.
CON1	D-SUB Dual COM1/VGA Output	9pin COM/ 15pin VGA
CON6	Serial port COM2	9pin COM port
CON10	D-SUB Dual Serial Port COM3, COM4	9pin COM port
IDE1	IDE Connector	44Pin IDE Conn.
IDE2	IDE Connector	40Pin IDE Conn.
USB1	USB PIN HEADER	5x2 Pin Header
NB_FAN1	FAN CONNECTOR	3x1 Pin Header
CPU FAN1	FAN CONNECTOR	3x1 Pin Header
PANEL1	System Function Connector	5x2 header ,pitch 2.0mm
J4	Front Audio (Right)	1x2 header ,pitch 2.54mm
J5	Front Audio (Left)	1x2 header ,pitch 2.54mm
CON8	12V External Power	2x1 header, pitch 2.54mm
CON9	5V External Power	2x1 header, pitch 2.54mm
J6	5V/12V External Power	4x2 header ,pitch 2.54mm
CON7	5V/12V DC Jack	4x1 Pin Jack
ATX12V1	12V DC Connector	2x2 Pin Connecter
PWIN1	12V DC Connector	4 Pin Connecter

2.5.1 CON2: LVDS Connector



Pin No.	SYMBOL	Pin No.	SYMBOL
1	LCDVDD	2	LVDS_LTX0-
3	LCDVDD	4	LVDS_LTX0+
5	LCDVDD	6	LVDS_LTX1-
7	GND	8	LVDS_LTX1+
9	GND	10	LVDS_LTX2-
11	GND	12	LVDS_LTX2+
13	GND	14	LVDS_LCLK-
15	GND	16	LCDS_LCLK
17	GND	18	NC
19	GND	20	NC
21	GND	22	LVDS_UTX0-
23	GND	24	LVDS_UTX0+
25	GND	26	LVDS_UTX1-
27	GND	28	LVDS_UTX1+
29	GND	30	LVDS_UTX2-
31	GND	32	LVDS_UTX2+
33	GND	34	LVDS_UCLK-
35	GND	36	LVDS_UCLK
37	GND	38	NC
39	GND	40	NC

2.5.2 JP1: Digital Panel Backlight Brightness Control

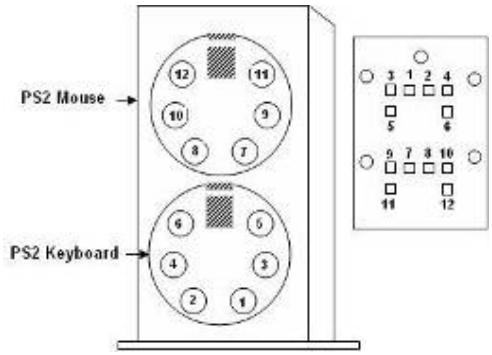


Pin No.	SYMBOL
1	VCC
2	Black Light Control
3	GND

2.5.3 CON3: Digital Panel Backlight Control

Pin No.	SYMBOL
1	+12V
2	+12V
3	+12V
4	GND
5	Black Light Control
6	GND
7	Black Light EN 5V

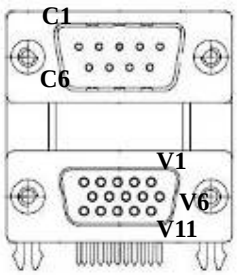
2.5.4 PSKBM1: PS2 Keyboard/Mouse Connector



PS/2 Keyboard		PS/2 Mouse	
Pin No.	SYMBOL	Pin No.	SYMBOL
1	KDATA	11	MDATA
2	NC	12	NC
3	Ground	13	Ground
4	VCC	14	VCC
5	KCLK	15	MCLK
6	NC	16	NC

2.5.5 CON1: D-SUB Dual Output

The serial port COM1, which is option for RS232 / RS422 / RS485, is the Winbond I/O serial port.



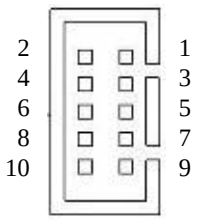
Up: 9(Male)

Down: 15(Female)

Pin No.	SYMBOL	Pin No.	SYMBOL
C1	DCD4/485TXRX-	V1	R
C2	SRD4/485TXRX+	V2	G
C3	STD4/422RX+	V3	B
C4	DTR4/422RX-	V4	NA
C5	GND	V5	GND
C6	NDSRA	V6	GND
C7	NRTSA	V7	GND
C8	NCTSA	V8	GND
C9	NRIA	V9	VCC
		V10	GND
		V11	NA
		V12	DAC_SDAT0
		V13	3VHSYNC0
		V14	3VVSYNC0
		V15	DAC_SCL0

2.5.6 CON6: Serial port COM2

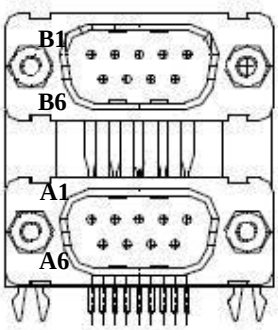
The serial port COM2, which is Winbond I/O support, is RS232 only.



Pin	SYMBOL	Pin	SYMBOL
2	NDSR1A	1	NDCD1A
4	NRTS1A	3	NRXD1A
6	NCTS1A	5	NTXD1A
8	NCTS1A	7	NDTR1A
10	GND	9	GND

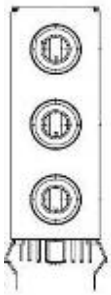
2.5.7 CON10: D-SUB Dual Serial Port

The serial port COM3/4, RS232 only, from A1 to A9 is COM3, and B1 to B9 is COM4, which is supported by Fintek.



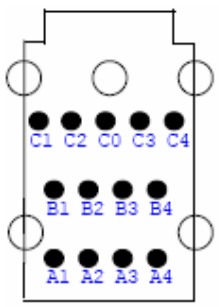
Pin No.	SYMBOL	Pin No.	SYMBOL
A1	FK_NDCD1	B1	FK_NDCD2
A2	FK_NSIN1	B2	FK_NSIN2
A3	FK_NSOUT1	B3	FK_NSOUT2
A4	FK_NDTR1	B4	FK_NDTR2
A5	GND	B5	GND
A6	FK_NDSR1	B6	FK_NDSR2
A7	FK_NRTS1	B7	FK_NRTS2
A8	FK_NCTS1	B8	FK_NCTS2
A9	FK_NRI1	B9	FK_NRI2

2.5.8 AUDIO401: Audio Jack (Pin-header)

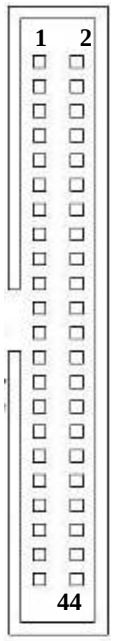


Pin	SYMBOL
Color	Signal
Blue	Line In
Green	Line Out
Pink	Microphone In

Pin-Header	
C0~C4	Line in
B1~B4	Line out
A1~A4	Mic in

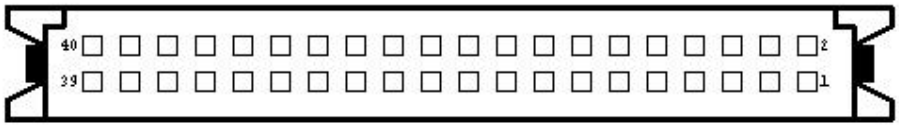


2.5.9 IDE1: 44 pins IDE Connector



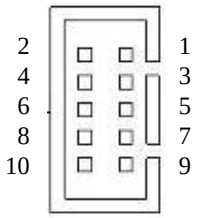
Pin No.	SYMBOL	Pin No.	SYMBOL
1	RESET	2	GND3
3	DD7	4	DD8
5	DD6	6	DD9
7	DD5	8	DD10
9	DD4	10	DD11
11	DD3	12	DD12
13	DD2	14	DD13
15	DD1	16	DD14
17	DD0	18	DD15
19	GND1	20	NC
21	DREQ	22	GND4
23	DIOW#	24	GND5
25	DIOR#	26	GND6
27	IO_RDYD	28	CSEL
29	DACK#	30	GND7
31	IRQ	32	IOCS16#
33	DA1	34	CBL_ID#
35	DA0	36	DA2
37	DCS#1	38	DCS#3
39	DASP#	40	GND8
41	+5V1	42	+5V2
43	GND	44	NC

2.5.10 IDE2: 40 pins IDE Connector



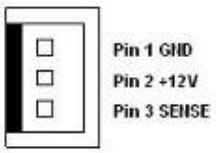
Signal Name	Pin #	Pin #	Signal Name
Reset IDE	1	2	Ground
Host data 7	3	4	Host data 8
Host data 6	5	6	Host data 9
Host data 5	7	8	Host data 10
Host data 4	9	10	Host data 11
Host data 3	11	12	Host data 12
Host data 2	13	14	Host data 13
Host data 1	15	16	Host data 14
Host data 0	17	18	Host data 15
Ground	19	20	Protect pin
DRQ0	21	22	Ground
Host IOW	23	24	Ground
Host IOR	25	26	Ground
IOCHRDY	27	28	Host ALE
DACK0	29	30	Ground
IRQ14	31	32	No connect
Address 1	33	34	No connect
Address 0	35	36	Address 2
Chip select 0	37	38	Chip select 1
Activity	39	40	Ground

2.5.11 USB1: USB PIN HEADER

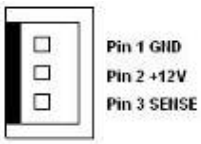


USB1			
Pin	SYMBOL	Pin	SYMBOL
2	USBVCC4	1	USBVCC4
4	USB_P6-	3	USB_P7-
6	USB_P6+	5	USB_P7+
8	GND	7	GND
10	KEY	9	GND

2.5.12 NB_FAN1/CPU_FAN1: FAN CONNECTOR

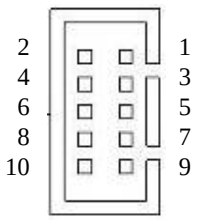


NB_FAN1



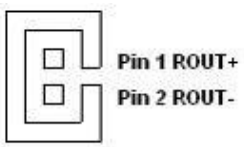
CPU_FAN1

2.5.13 PANEL1: Front Panel System Function Connector

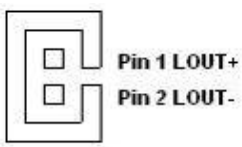


Pin	SYMBOL	Pin	SYMBOL
2	HD_LED+	1	PW_LED+
4	HD_LED-	3	PW_LED-
6	RT_BT1	5	PW_BT1
8	RT_BT2	7	PW_BT2
10	5VSB	9	RSEV

2.5.14 J4/J5: Front Audio

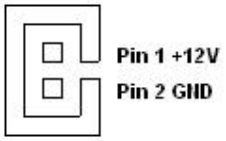


J4

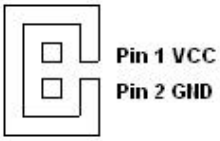


J5

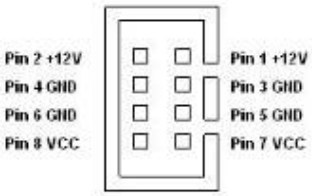
2.5.15 CON8/CON9/J6: External Power



CON905

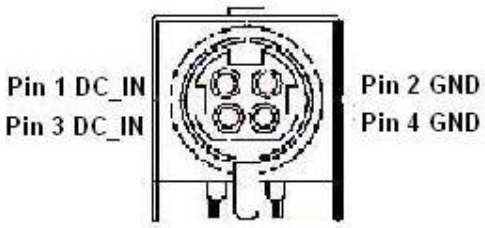


CON906

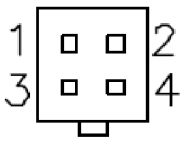


J6

2.5.16 PWIN1: DC Jack



2.5.17 ATX12V1: 12V DC Connector

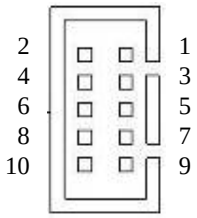


Pin	SYMBOL
1	Ground
2	Ground
3	+12V
4	+12V

2.5.18 CON7: 4 Pin Power Connector

Pin	SYMBOL
1	+12V
2	Ground
3	Ground
4	+5V

2.5.19 : Audio Connector



Pin	SYMBOL	Pin	SYMBOL
2	LINE OUT L	1	LINE_OUT R
4	GND	3	GND
6	LINE IN L	5	LINE IN R
8	MICVREF	7	MIC1
10	VOL OUT	9	GND

CHAPTER 3

Graphic Driver Installation

This chapter offers information on the chipset software Installation utility

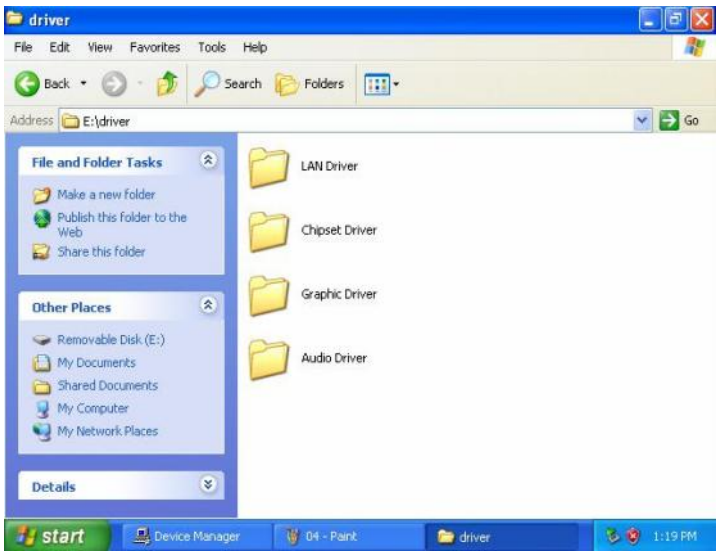
- Installation of Graphic Driver
- Panel Resolution Setting

Chapter 3 Graphic Driver Installation

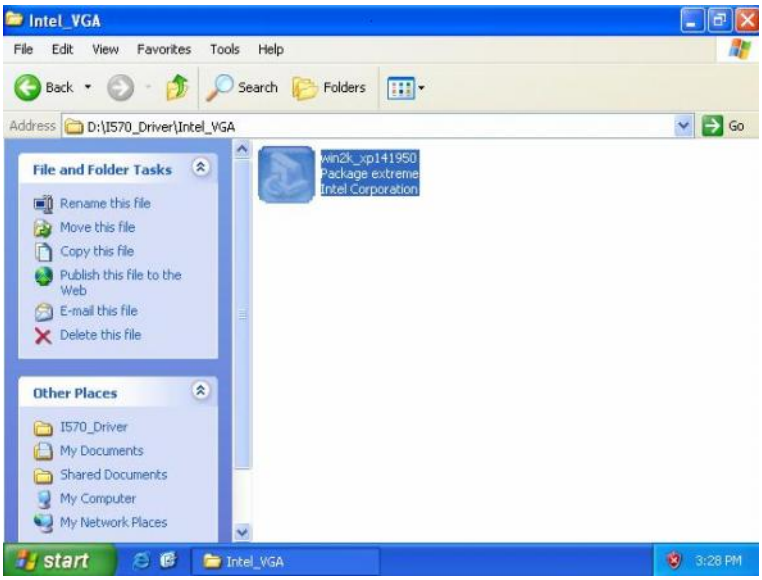
3.1 Graphic Driver Installation

I570 Motherboard is equipped with Intel 855GME / ICH4 Companion Device. The Intel Graphic Drivers should be installed first, and it will enable "Video Controller (VGA compatible). Follow the instructions below to complete the installation. You will quickly complete the installation.

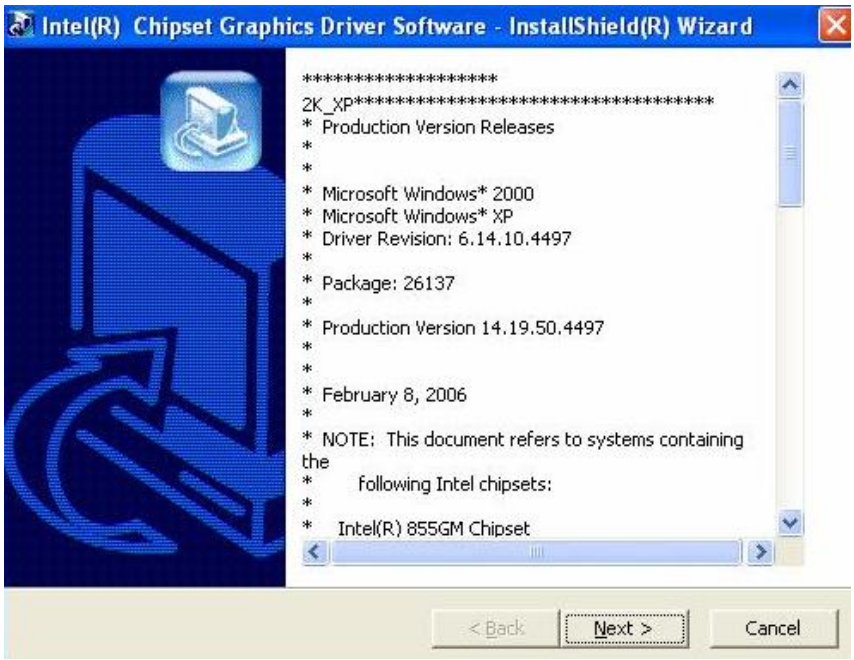
Step.1. Insert the CD that comes with the Motherboard. Open the file document "Graphic Driver ".



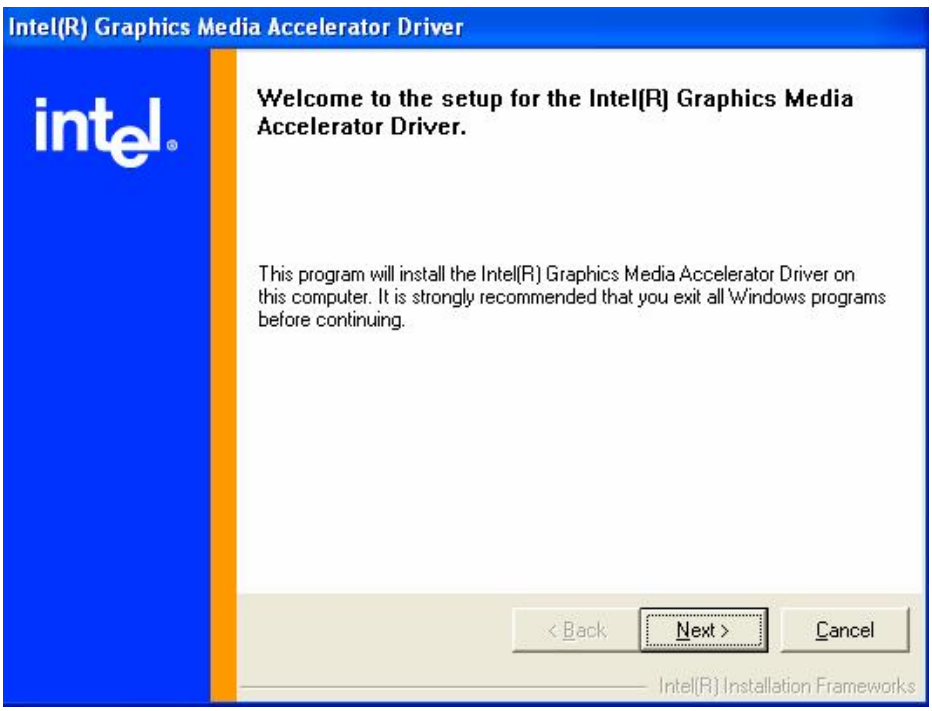
Step.2. Click on "win2K_xp141950" to execute the setup.


Intel_VGA
File Edit View Favorites Tools Help
Back Search Folders
Address D:\I570_Driver\Intel_VGA
Go
File and Folder Tasks
Rename this file
Move this file
Copy this file
Publish this file to the Web
E-mail this file
Delete this file
Other Places
I570_Driver
My Documents
Shared Documents
My Computer
My Network Places
win2k_xp141950
Package extreme
Intel Corporation
start
Intel_VGA
3:28 PM

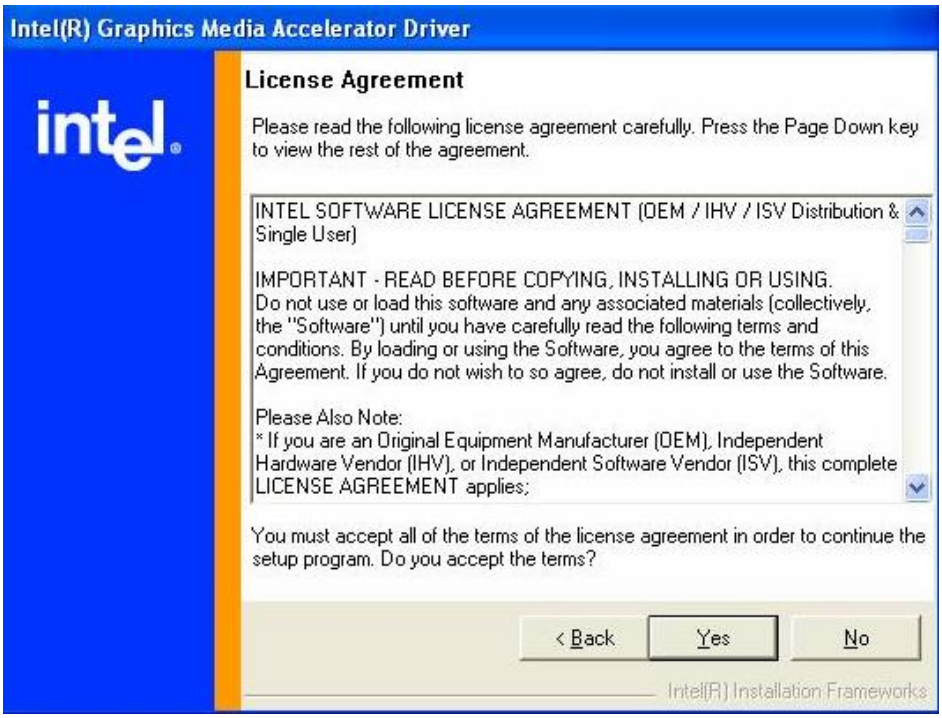
Step.3. Click on “Next “ to install Driver.



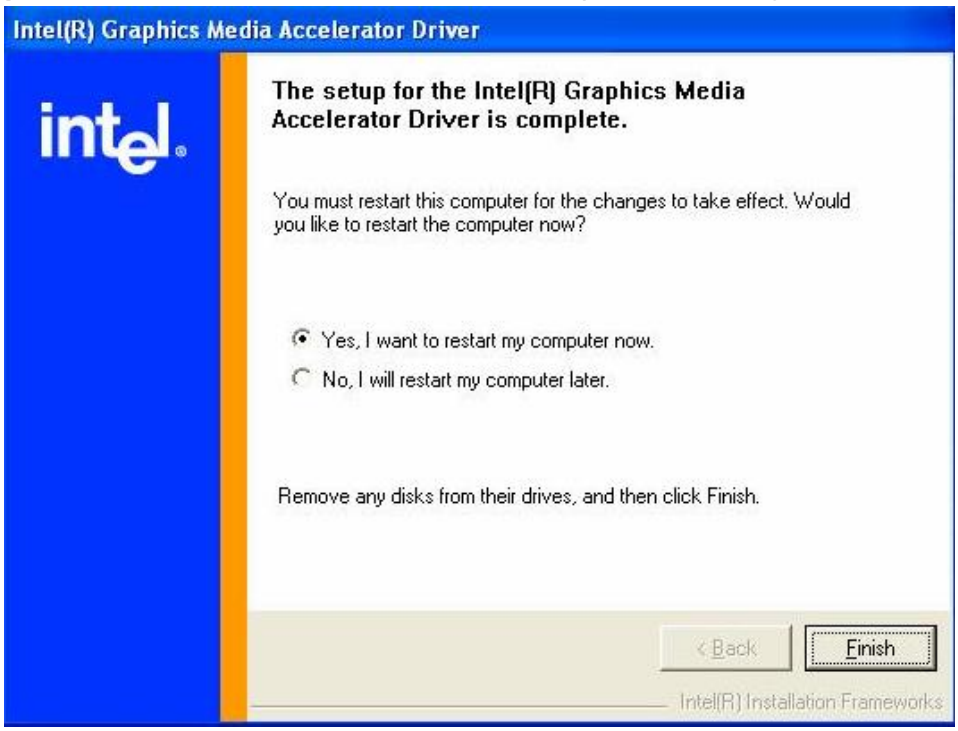
Step.4. Click on “Next “ to install Driver.


Intel(R) Graphics Media Accelerator Driver
intel
Welcome to the setup for the Intel(R) Graphics Media Accelerator Driver.
This program will install the Intel(R) Graphics Media Accelerator Driver on this computer. It is strongly recommended that you exit all Windows programs before continuing.
< Back
Next >
Cancel
Intel(R) Installation Frameworks

Step.5. Click on “Yes “ to agree License.


Intel(R) Graphics Media Accelerator Driver
intel
License Agreement
Please read the following license agreement carefully. Press the Page Down key to view the rest of the agreement.
INTEL SOFTWARE LICENSE AGREEMENT (OEM / IHV / ISV Distribution & Single User)
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.
Do not use or load this software and any associated materials (collectively, the "Software") until you have carefully read the following terms and conditions. By loading or using the Software, you agree to the terms of this Agreement. If you do not wish to so agree, do not install or use the Software.
Please Also Note:
* If you are an Original Equipment Manufacturer (OEM), Independent Hardware Vendor (IHV), or Independent Software Vendor (ISV), this complete LICENSE AGREEMENT applies;
You must accept all of the terms of the license agreement in order to continue the setup program. Do you accept the terms?
< Back
Yes
No
Intel(R) Installation Frameworks

Step.7. Click on “Yes, I want to restart this computer now“ to go on.


Intel(R) Graphics Media Accelerator Driver
intel
The setup for the Intel(R) Graphics Media Accelerator Driver is complete.
You must restart this computer for the changes to take effect. Would you like to restart the computer now?
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish.
< Back
Finish
Intel(R) Installation Frameworks

CHAPTER 4

Chipset Driver Installation

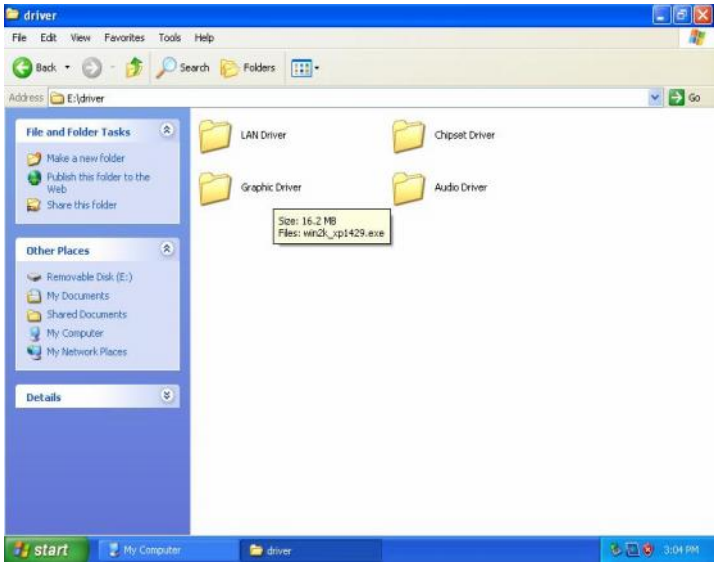
This chapter offers information on the chipset software Installation utility

- Installation of Chipset Driver
- Further information

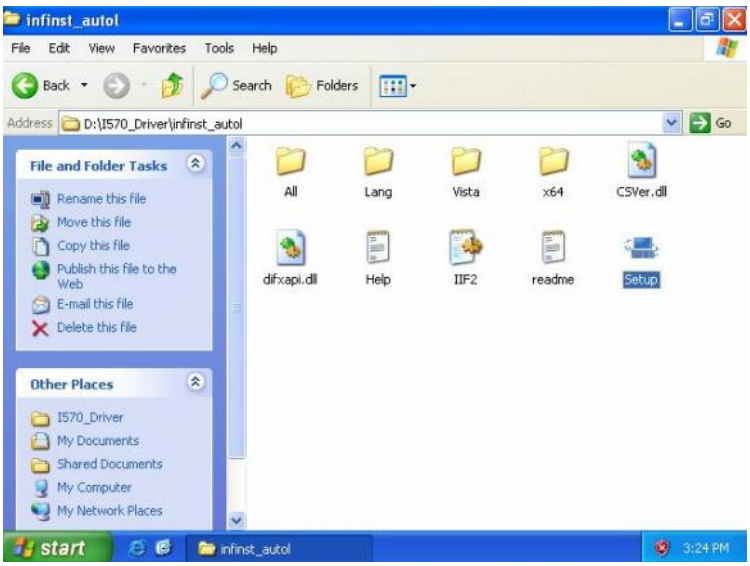
Chapter 4 Chipset Driver Installation

4.1 Chipset Driver Installation

Setp.1. Insert the CD that comes with the motherboard. Open the file document "Chipset Driver".



Setp.2. Click on "Setup" to install driver.



Setp.3. Click on “Next“ to install driver.

Intel® Chipset Device Software
Intel® Chipset Device Software
Welcome to the Setup Program
This setup program will install the Intel® Chipset Device Software onto this computer. It is strongly recommended that you exit all Windows* programs before continuing.
< Back
Next >
Cancel
Intel® Installation Framework

Setp.4. Click on “Yes “ to agree License

Intel® Chipset Device Software
Intel® Chipset Device Software
License Agreement
You must accept all of the terms of the license agreement in order to continue the setup program. Do you accept the terms?
INTEL SOFTWARE LICENSE AGREEMENT (OEM / IHV / ISV Distribution & Single User)
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.
Do not use or load this software and any associated materials (collectively, the "Software") until you have carefully read the following terms and conditions. By loading or using the Software, you agree to the terms of this Agreement. If you do not wish to so agree, do not install or use the Software.
Please Also Note:
* If you are an Original Equipment Manufacturer (OEM), Independent Hardware Vendor (IHV), or Independent Software Vendor (ISV), this complete LICENSE AGREEMENT applies;
< Back
Yes
No
Intel® Installation Framework

Setp.5. Click on “Next“ to install driver.

Intel® Chipset Device Software
Intel® Chipset Device Software
Readme File Information
Refer to the Readme file below to view the system requirements and installation information.
Press the Page Down key to view the rest of the file.
****
* Product: Intel(R) Chipset Device Software
* Release: Production Version
* Version: 8.3.1.1009
* Target Chipset#: X38 & 3200/3210 Chipset
* Date: July 26 2007
****
< Back
Next >
Cancel
Intel® Installation Framework

Setp.6. Click on “Next“ to install driver.

Intel® Chipset Device Software
Intel® Chipset Device Software
Setup Progress
Please wait while the following setup operations are performed:
Copying File: CSVer.dll
Creating Key: HKLM\SOFTWARE\Intel\Infinst\Language=ENU,sz
Installing Driver: Intel(R) 82852/82855 GM/GME/PM/GMV to Processor I/O Controller - 3580
Version: 5.1.0.1006
Installing Driver: Intel(R) 82852/82855 GM/GME/PM/GMV to Processor I/O Controller - 3584
Version: 5.1.0.1006
Installing Driver: Intel(R) 82852/82855 GM/GME/PM/GMV to Processor I/O Controller - 3585
Version: 5.1.0.1006
Click Next to continue.
Next
Intel® Installation Framework

Step.7. Click on “Yes, I want to restart this computer now“ to go on.

Intel® Chipset Device Software
Intel® Chipset Device Software
Setup Is Complete
intel
You must restart this computer for the changes to take effect. Would you like to restart the computer now?
Yes, I want to restart this computer now.
No, I will restart this computer later.
Click Finish, then remove any installation media from the drives.
Finish
Intel® Installation Framework

CHAPTER 5

Ethernet Driver Installation

This chapter offers information on the Ethernet software installation utility.
Sections include:

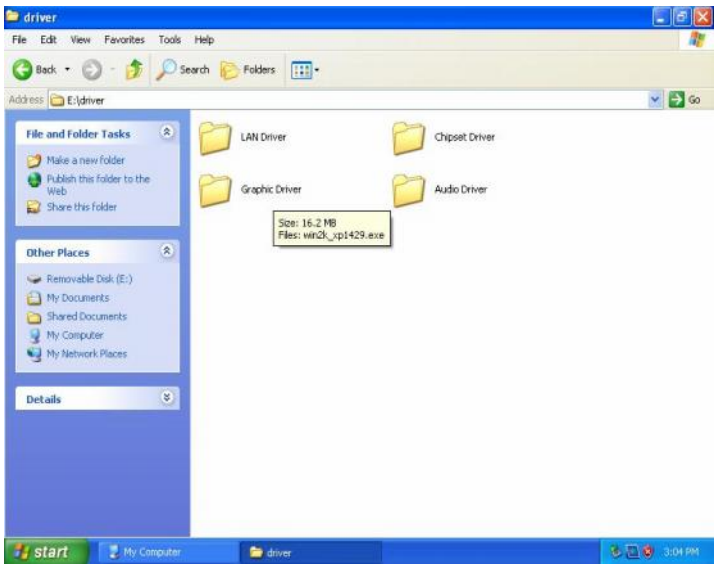
- Introduction
- Installation of Ethernet Driver

Chapter 5 Ethernet Driver Installation

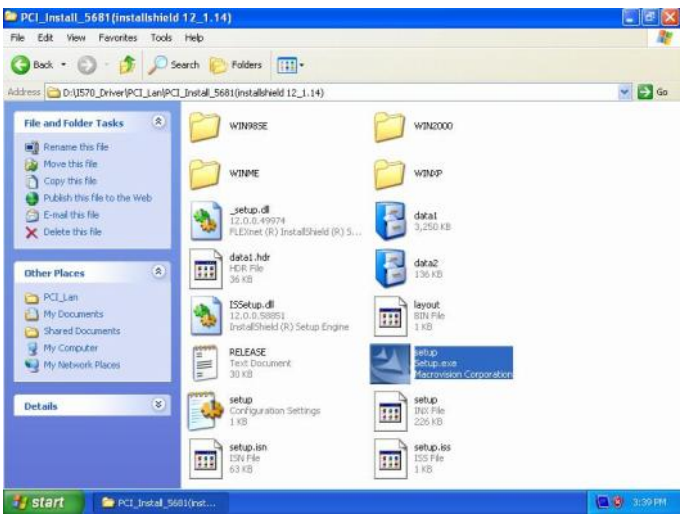
5.1 Installation of Ethernet Driver

The Users must make sure which operating system you are using in the I570 Motherboard before installing the Ethernet drivers. Follow the steps below to complete the installation of the Realtek RTL8110SC LAN drivers. You will quickly complete the installation.

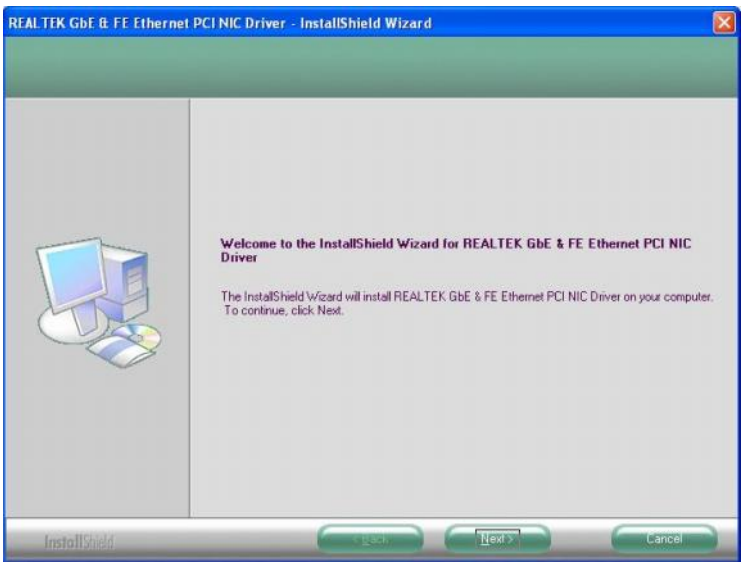
Step.1. Insert the CD that comes with the motherboard. Open the file document “LAN Driver”.



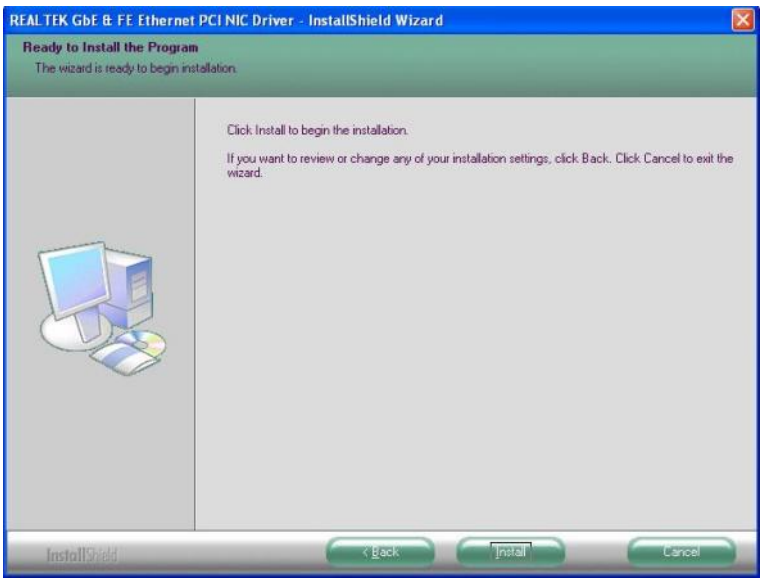
Step.2 Click on “Setup” to execute the setup.



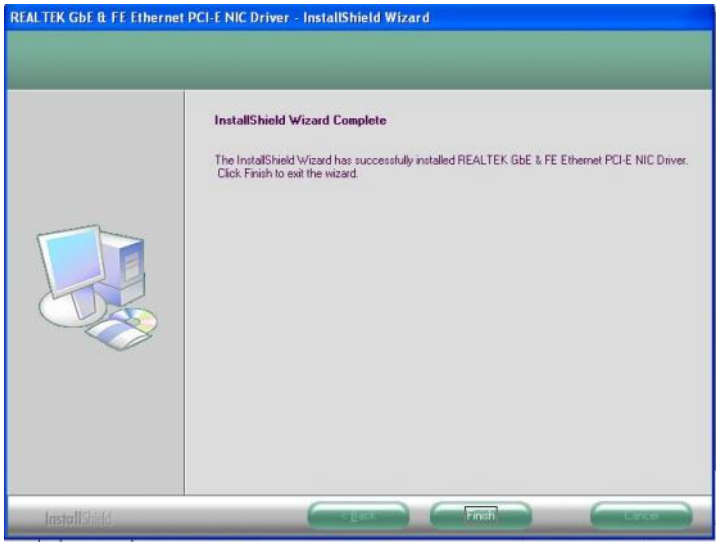
Step.3. Click on “Next“ to install driver.


REALTEK GbE & FE Ethernet PCI NIC Driver - InstallShield Wizard
Welcome to the InstallShield Wizard for REALTEK GbE & FE Ethernet PCI NIC Driver
The InstallShield Wizard will install REALTEK GbE & FE Ethernet PCI NIC Driver on your computer. To continue, click Next.
InstallShield
< Back
Next >
Cancel

Step.3. Click on “Install“ to install driver.


REALTEK GbE & FE Ethernet PCI NIC Driver - InstallShield Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel

Setp.3. Click on “Finish“ and go on.


REALTEK GbE & FE Ethernet PCI-E NIC Driver - InstallShield Wizard
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed REALTEK GbE & FE Ethernet PCI-E NIC Driver. Click Finish to exit the wizard.
InstallShield
Finish

CHAPTER 6

Audio Driver Installation

This chapter offers information on the Audio software installation utility.
Sections include:

- Introduction
- Installation of Audio Driver

Chapter 6 Audio Driver Installation

6.1 Introduction

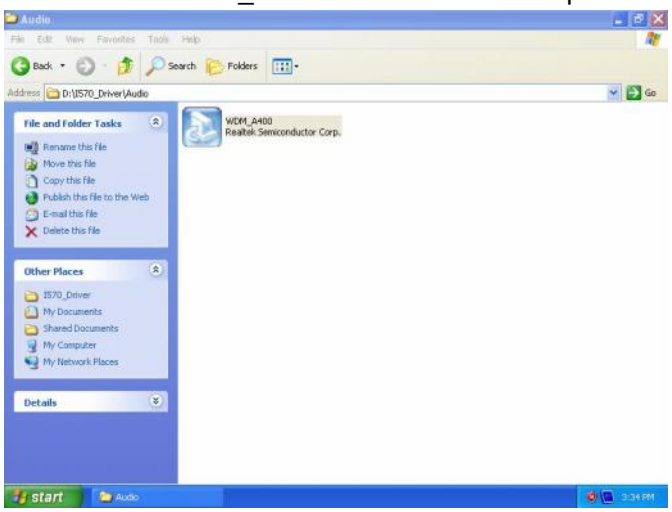
The I570 Motherboard is equipped with the ALC655 is a 16-bit, full-duplex AC'97 Rev. 2.3 compatible six-channel audio CODEC designed for PC multimedia systems, including host/soft audio and AMR/CNR-based designs..

The ALC655 CODEC provides three pairs of stereo outputs with 5-bit volume control, a mono output, and multiple stereo and mono inputs, along with flexible mixing, gain, and mute functions to provide a complete integrated audio solution for PCs.

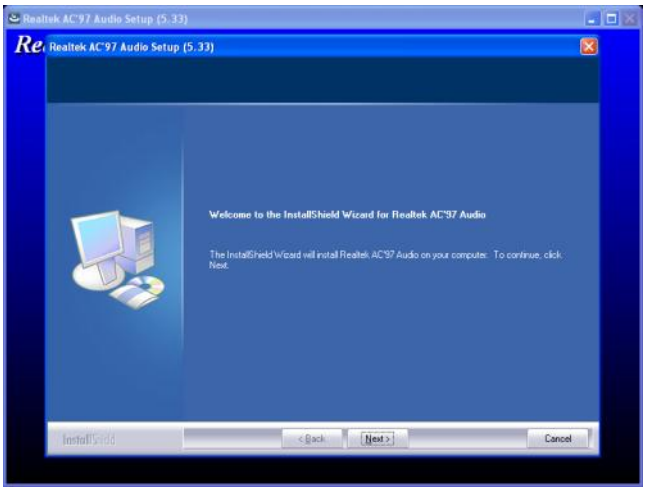
6.2 Installation of Audio Driver

The users must make sure which operating system you are using in the I570 Motherboard before installing the Audio drivers. Follow the steps below to complete the installation of the Realtek ALC655 Audio drivers. You will quickly complete the installation.

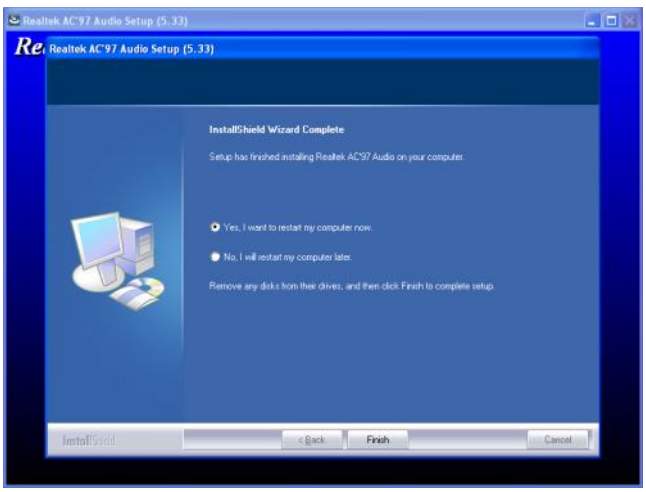
Step.1. Insert the CD that comes with the motherboard. Open the file document "alc655_driver" and click on "WDM_A400" to execute the setup.



Step.2. Click on “Next“ to install driver.


Realtek AC'97 Audio Setup (5.33)
Realtek AC'97 Audio Setup (5.33)
Welcome to the InstallShield Wizard for Realtek AC'97 Audio
The InstallShield Wizard will install Realtek AC'97 Audio on your computer. To continue, click Next.
InstallShield
< Back
Next >
Cancel

Step.3. Click on “Yes, I want to restart my computer now” to finish installation.


Realtek AC'97 Audio Setup (5.33)
Realtek AC'97 Audio Setup (5.33)
InstallShield Wizard Complete
Setup has finished installing Realtek AC'97 Audio on your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
InstallShield
< Back
Finish
Cancel

CHAPTER 7

Award BIOS Installation

This chapter describes the different settings available in the Award BIOS that comes with the board. This chapter offers information on the Award BIOS installation utility. Sections include:

- BIOS Introduction
- BIOS Setup
- Standard CMOS Setup
- Advanced BIOS Features
- Advanced Chipset Features
- Integrated Peripherals
- Power Management Setup
- PC Health Status
- Load Fail-Safe Defaults
- Load Optimized Defaults
- Set Supervisor/User Password
- Save & Exit Setup
- Exit Without Saving

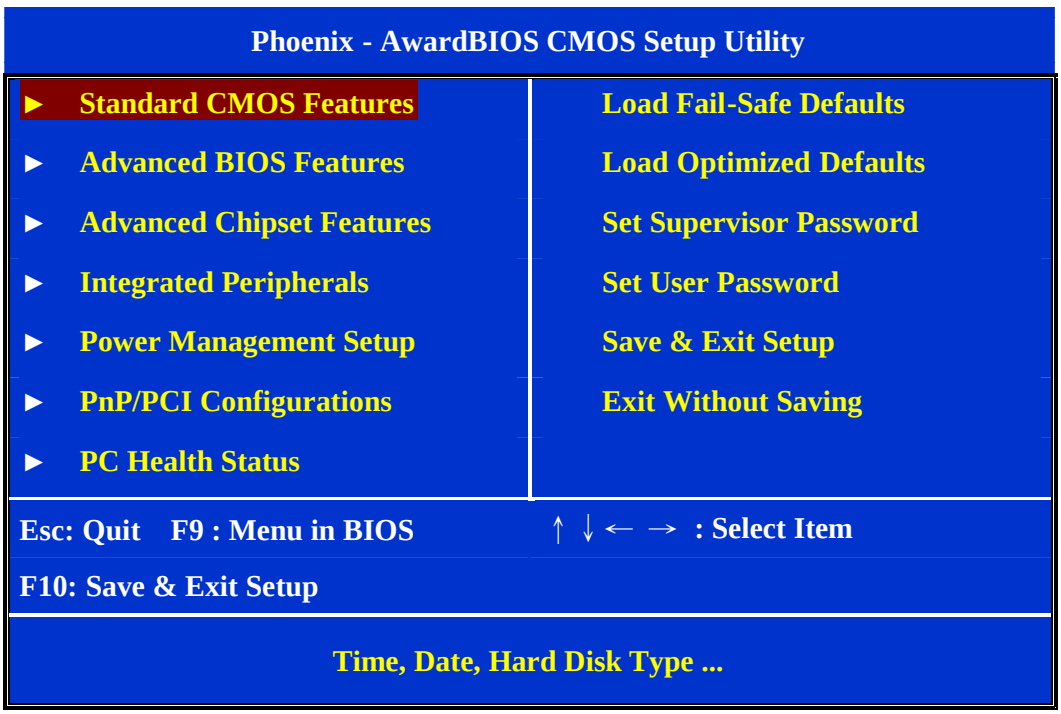
Chapter 7 Award BIOS Installation

7.1 BIOS Introduction

Award BIOS (Basic Input/Output System) installed in your computer system's ROM supports Intel processors. The BIOS provides critical low -level support for a standard device such as disk drives, serial ports and parallel ports. It also adds virus and password protection as well as special s upport for detailed fine-tuning of the chipset controlling the entire system.

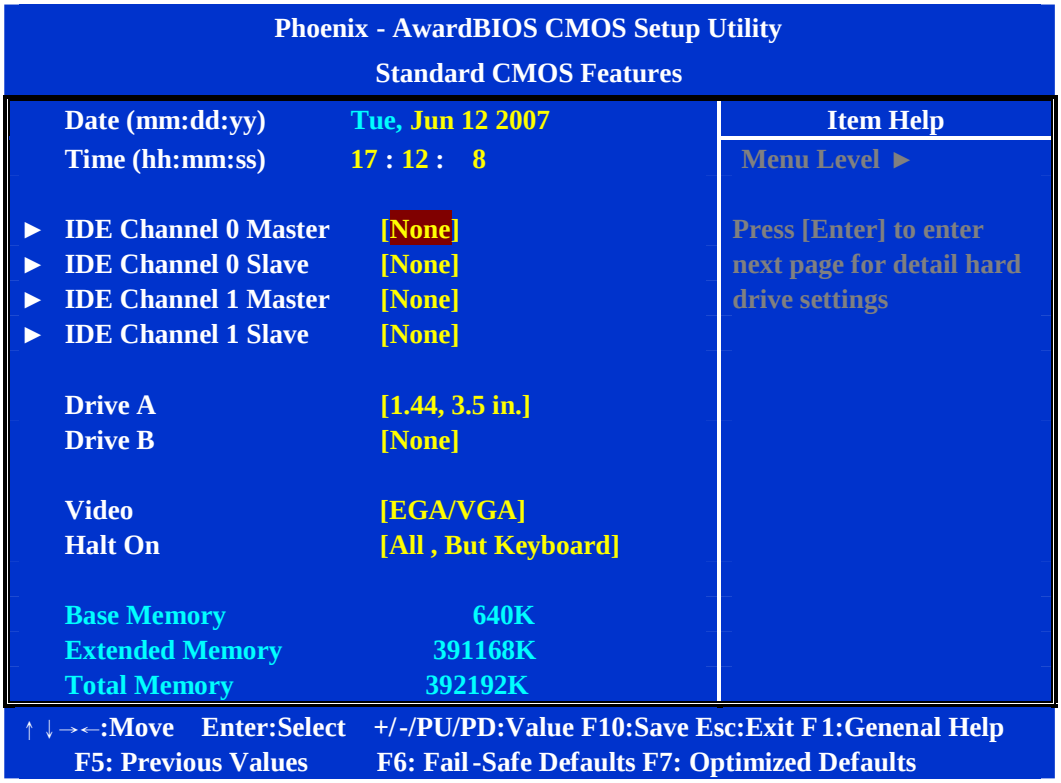
7.2 BIOS Setup

The Award BIOS provides a Setup utility program for specifying the system configurations and settings. The BIOS ROM of the syste m stores the Setup utility. As you turn on the computer, the Award BIOS is immediately activated. Pressing the <Del> key immediately allows you to enter the Setup utility. If you are a little bit late pressing the <Del> key, POST (Power On Self Test) will continue with its test routines, thus preventing you from invoking the Setup. If you still wish to enter Setup, restart the system by pressing the "Reset" button or simultaneo usly pressing the <Ctrl>, <Alt> and <Delete> keys. You can also restart by turning the system Off and back On again. The following message will appear on the screen:


Phoenix - AwardBIOS CMOS Setup Utility
► Standard CMOS Features
► Advanced BIOS Features
► Advanced Chipset Features
► Integrated Peripherals
► Power Management Setup
► PnP/PCI Configurations
► PC Health Status
Load Fail-Safe Defaults
Load Optimized Defaults
Set Supervisor Password
Set User Password
Save & Exit Setup
Exit Without Saving
Esc: Quit F9 : Menu in BIOS
↑ ↓ ← → : Select Item
F10: Save & Exit Setup
Time, Date, Hard Disk Type ...

7.3 Standard CMOS Setup

Standard CMOS Setup" choice allows you to record some basic hardware configurations in your computer system and set the system clock and error handling. If the motherboard is already installed in a working system, you will not need to select this option. You will need to run the Standard CMOS option, however, if you change your system hardware configurations, the onboard battery fails, or the configuration stored in the CMOS memory was lost or damaged.


Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
Date (mm:dd:yy) Tue, Jun 12 2007
Time (hh:mm:ss) 17 : 12 : 8
IDE Channel 0 Master [None]
IDE Channel 0 Slave [None]
IDE Channel 1 Master [None]
IDE Channel 1 Slave [None]
Drive A [1.44, 3.5 in.]
Drive B [None]
Video [EGA/VGA]
Halt On [All , But Keyboard]
Base Memory 640K
Extended Memory 391168K
Total Memory 392192K
Item Help
Menu Level ►
Press [Enter] to enter next page for detail hard drive settings
↑ ↓ → ←:Move Enter:Select +/-/PU/PD:Value F10:Save Esc:Exit F 1:Genenal Help
F5: Previous Values F6: Fail -Safe Defaults F7: Optimized Defaults

The following describes each item of this menu.

Date (mm : dd : yy)
The date format is:
Day : Sun to Sat
Month : 1 to 12
Date : 1 to 31
Year : 1999 to 2099

To set the date, highlight the "Date" field and use the PageUp/ PageDown or +/- keys to set the current time.

Time
The time format is: Hour : 00 to 23

Minute : 00 to 59
Second : 00 to 59

To set the time, highlight the “Time” field and use the <PgUp>/ <PgDn> or +/- keys to set the current time.

IDE Channel Master/Slave

The onboard PCI-IDE connector provides one channel for connecting up to one IDE hard disks or other IDE device.

Press <Enter> to configure the hard disk. The selections include None, Auto, and Manual. Select ‘Manual’ to define the drive information manually. You will be asked to enter the following items.

Cylinder :	Number of cylinders
Head :	Number of read/write heads
Precomp :	Write precompensation
Landing Zone :	Landing zone
Sector :	Number of sectors

Video

This field selects the type of video display card installed in your system. You can choose the following video display cards:

EGA/VGA	For EGA, VGA, SEGA, SVGA or PGA monitor adapters. (default)
CGA 40	Power up in 40 column mode.
CGA 80	Power up in 80 column mode.
MONO	For Hercules or MDA adapters.

Halt On

This field determines whether or not the system will halt if an error is detected during power up.

No errors

The system boot will not be halted for any error that may be detected.

All errors

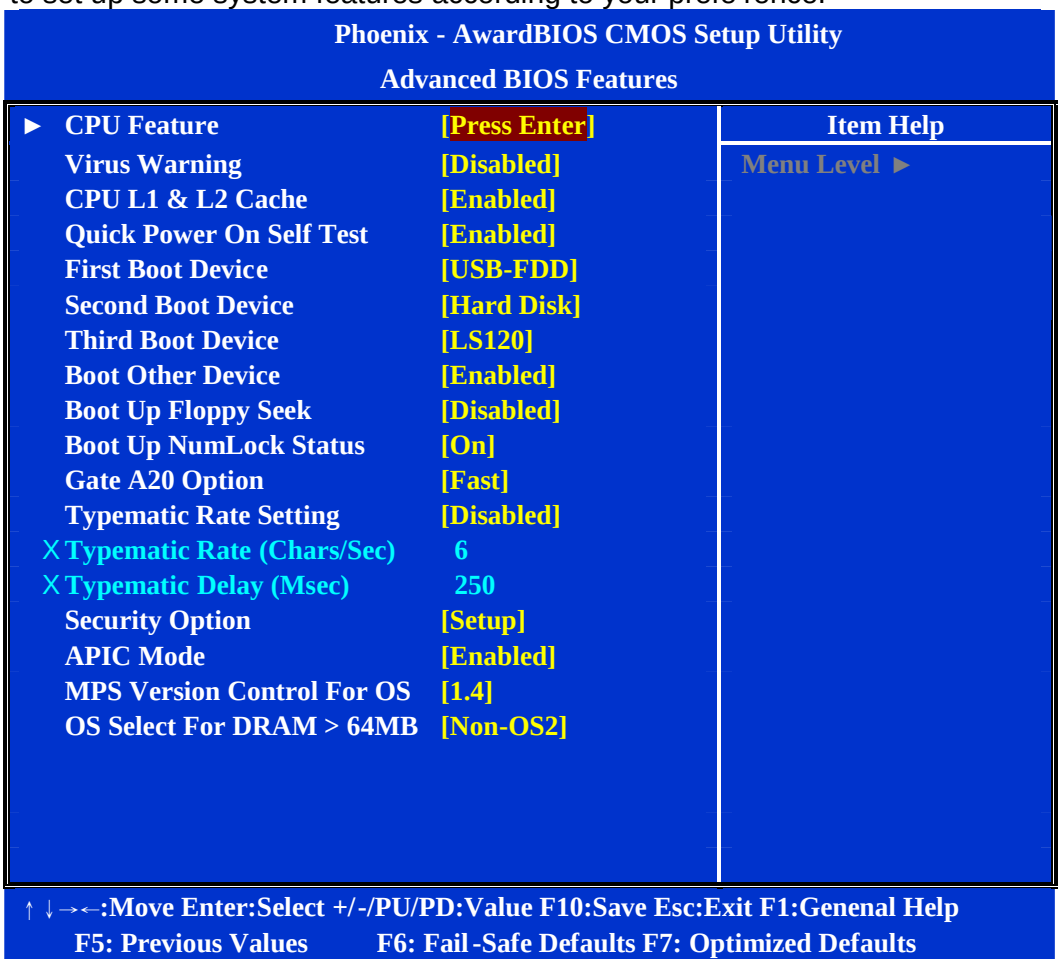
Whenever the BIOS detects a non-fatal error, the system will stop and you will be prompted.

All, But Keyboard

The system boot will not be halted for a keyboard error; it will stop for all other errors

7.4 Advance BIOS Feature

This section allows you to configure and improve your system and allows you to set up some system features according to your prefe rence.


Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features
► CPU Feature [Press Enter]
Virus Warning [Disabled]
CPU L1 & L2 Cache [Enabled]
Quick Power On Self Test [Enabled]
First Boot Device [USB-FDD]
Second Boot Device [Hard Disk]
Third Boot Device [LS120]
Boot Other Device [Enabled]
Boot Up Floppy Seek [Disabled]
Boot Up NumLock Status [On]
Gate A20 Option [Fast]
Typematic Rate Setting [Disabled]
X Typematic Rate (Chars/Sec) 6
X Typematic Delay (Msec) 250
Security Option [Setup]
APIC Mode [Enabled]
MPS Version Control For OS [1.4]
OS Select For DRAM > 64MB [Non-OS2]
Item Help
Menu Level ►
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save Esc:Exit F1:Genenal Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

CPU Feature

Press Enter to configure the settings relevant to CPU Feature.

Virus Warning

If this option is enabled, an alarm message will be displayed when trying to write on the boot sector or on the partition table on the disk, which is typical of the virus.

CPU L1 and L2 Cache

Cache memory is additional memory that is faster than conventional DRAM (system memory). CPUs from 486-type on up contain internal cache memory, and most, but not all, modern PCs have additional (external) cache memory. When the CPU requests data, the system transfers the requested data from the main DRAM into cache memory, for even faster access by the CPU. These allow you to enable (speed up memory access) or disable the cache function.

Quick Power On Self Test
When enabled, this field speeds up the Power On Self Test (POST) after the system is turned on. If it is set to Enable d, BIOS will skip some items.

First/Second/Third Boot Device
These fields determine the drive that the system searches first for an operating system. The option available include Floppy, LS120, Hard Disk, CDROM, ZIP100, USB-Floppy, USB-ZIP, USB-CDROM, LAN and Disable.

Boot Other Device
These fields allow the system to search for an OS from other devices other than the ones selected in the First/Second/Third Boot Device.

Boot Up Floppy Seek
This feature controls whether the BIOS checks for a floppy drive while booting up. If it cannot detect one (either due to improper configuration or its absence), it will flash an error message.

Boot Up NumLock Status
This allows you to activate the NumLock function after you power up the system.

Gate A20 Option
This field allows you to select how Gate A20 is worked. Gate A20 is a device used to address memory above 1 MB.

Typematic Rate Setting
When disabled, continually holding down a key on your keyboard will generate only one instance. When enabled, you can set t he two typematic controls listed next. By default, this field is set to Disabled.

Typematic Rate (Chars/Sec)
When the typematic rate is enabled, the system registers repeated keystrokes speeds. Settings are from 6 to 30 characters per second.

Typematic Delay (Msec)
When the typematic rate is enabled, this item allows you to set the time interval for displaying the first and second characters. By default, this item is set to 250msec.

Security Option
This field allows you to limit access to the System a nd Setup. The default value is Setup. When you select System, the system prompts for the User Password every time you boot up. When you select Setup, the system always boots up and prompts for the Supervisor Password only when the Setup utility is called up.

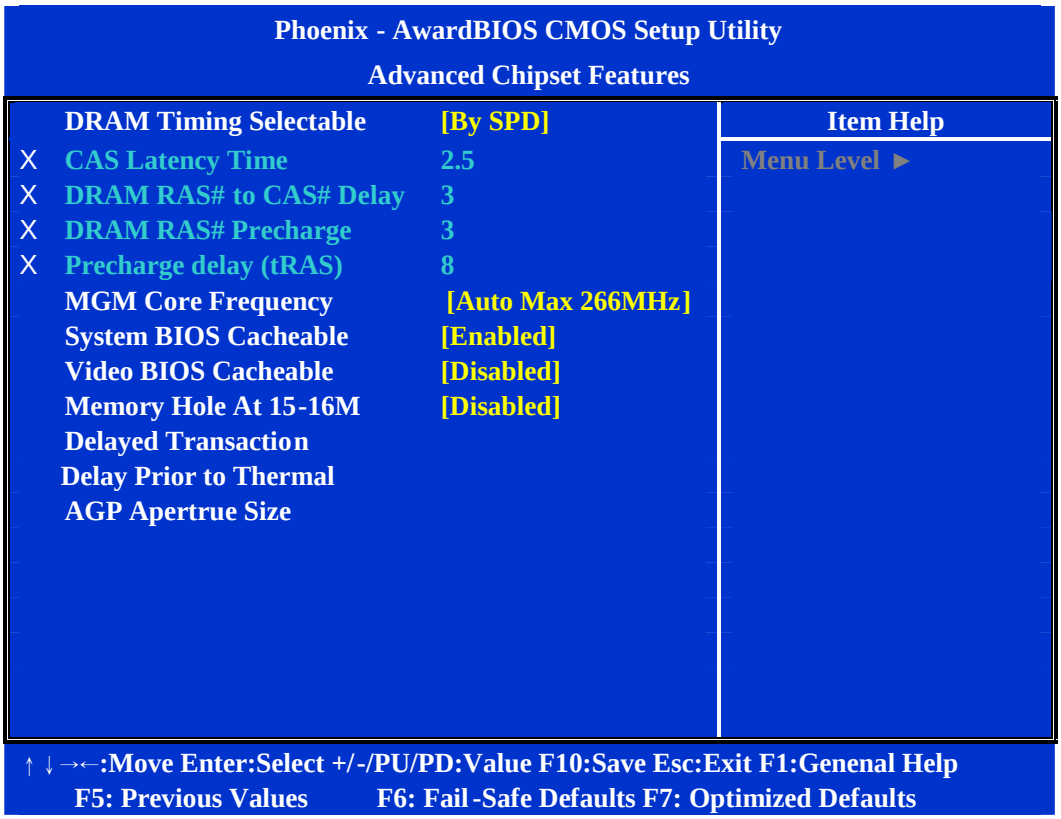
APIC Mode
APIC stands for Advanced Programmable Interrupt Controller. The default setting is Enabled.

MPS Version Control for OS
This option is specifies the MPS (Multiprocessor Specification) version for your operating system. MPS version 1.4 added extended configuration tables to improve support for multiple PCI bus configurations and improve future expandability. The default setting is 1.4.

OS Select for DRAM > 64MB
This option allows the system to access greater than 64MB of DRAM memory when used with OS/2 that depends on certain BIOS calls to access memory. The default setting is Non-OS/2.

7.5 Advanced Chipset Feature

This Setup menu controls the configuration of the chipset.


Phoenix - AwardBIOS CMOS Setup Utility
Advanced Chipset Features
DRAM Timing Selectable [By SPD]
X CAS Latency Time 2.5
X DRAM RAS# to CAS# Delay 3
X DRAM RAS# Precharge 3
X Precharge delay (tRAS) 8
MGM Core Frequency [Auto Max 266MHz]
System BIOS Cacheable [Enabled]
Video BIOS Cacheable [Disabled]
Memory Hole At 15-16M [Disabled]
Delayed Transaction
Delay Prior to Thermal
AGP Apertrue Size
Item Help
Menu Level ►
↑ ↓ →←:Move Enter:Select +/-/PU/PD:Value F10:Save Esc:Exit F1:Genenal Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

DRAM Timing Selectable

This option refers to the method by which the DRAM timing is selected. The default is By SPD.

CAS Latency Time

You can configure CAS latency time in HCLKs as 2 or 2.5 or 3. The system board designer should set the values in this field, depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU.

DRAM RAS# to CAS# Delay

This option allows you to insert a delay between the RAS (Row Address Strobe) and CAS (Column Address Strobe) signals. This delay occurs when the SDRAM is written to, read from or refreshed. Reducing the delay improves the performance of the SDRAM.

DRAM RAS# Precharge

This option sets the number of cycles required for the RAS to accumulate its charge before the SDRAM refreshes. The default setting for the Active to Precharge Delay is 4.

DRAM Data Integrity
This BIOS feature controls the **ECC** feature of the memory controller. ECC, which stands for **Error Checking and Correction**, enables the memory controller to detect and correct single-bit soft memory errors. The memory controller will also be able to detect double-bit errors although it will not be able to correct them. This provides increased data integrity and system stability. However, this feature can only be enabled if you are using special ECC memory modules.

MGM Core Frequency
This field sets the frequency of the DRAM memory installed. The default setting is Auto Max 266MHz.

System BIOS Cacheable
The setting of Enabled allows caching of the system BIOS ROM at F000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

Video BIOS Cacheable
The Setting Enabled allows caching of the video BIOS ROM at C0000h-F7FFFh, resulting in better video performance. However, if any program writes to this memory area, a system error may result.

Memory Hole At 15M-16M
In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory space below 16 MB. The choices are Enabled and Disabled.

Delayed Transaction
It's highly recommended that you **enable** Delayed Transaction for better PCI performance and to meet PCI 2.1 specifications. **Disable** it only if your PCI cards cannot work properly with this option or if you are using an ISA card that is not PCI 2.1 compliant.

Delay Prior to Thermal
The Delay Prior To Thermal BIOS feature controls the activation of the Thermal Monitor's automatic mode. It allows you to determine when the Pentium 4's Thermal Monitor should be activated in automatic mode after the system boots. For example, with the default value of 16 Minutes, the BIOS activates the Thermal Monitor in automatic mode 16 minutes after the system starts booting up.

AGP Aperture Size(MB)
This BIOS feature allows you to select the size of the AGP aperture. The aperture is a portion of the PCI memory address range dedicated as graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without need for translation. The aperture size also determines the maximum amount of system RAM that can be allocated to the graphics card for texture storage. The default setting is 64MB.

On-Chip VGA Setting
The fields under the On-Chip VGA Setting and their default settings are:
Enable

On-Chip Frame Buffer Size:
The default setting is 32MB

Boot Display:
You could select Auto/CRT/LVDS1/LVDS1+CRT. The default setting is Auto

Panel Scaling:
The default setting is Auto

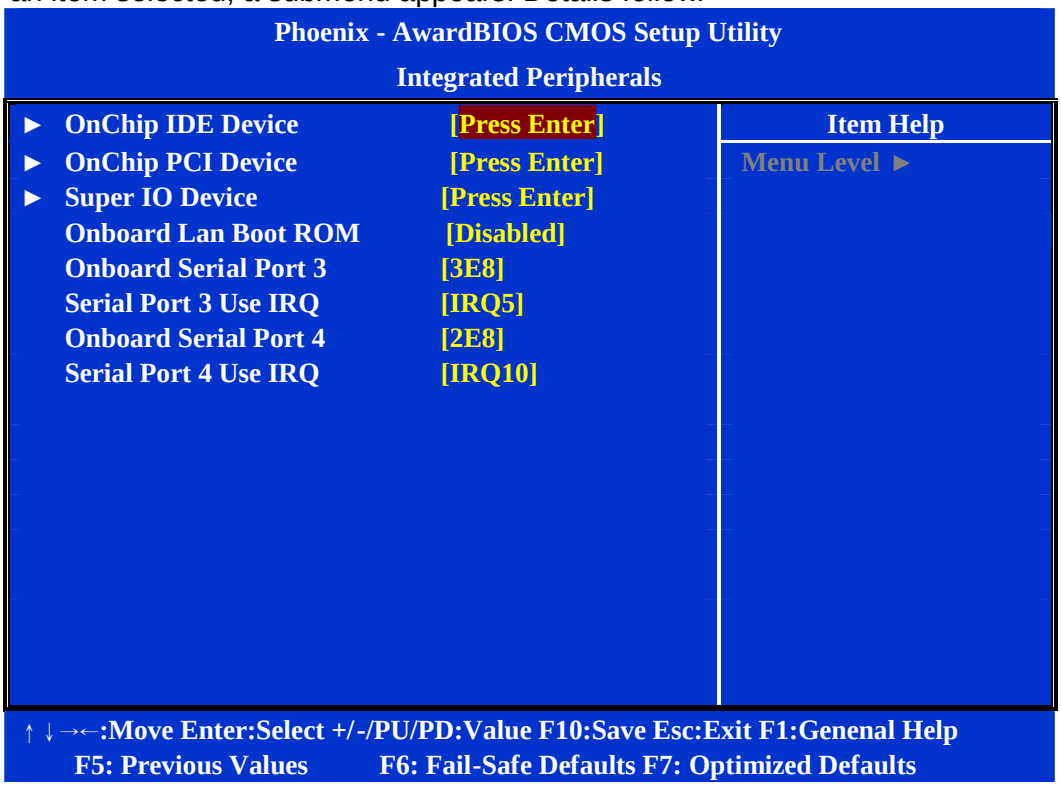
Panel Number

These fields allow you to select the LCD Panel type.

640*480	18bit SC
800*480	18bit SC
800*600	18bit SC
1024*768	18bit SC
1024*768	24bit SC
1280*800	18bit SC
1280*1024	24bit DC
1366*768	24 bit SC
1440*900	24bit DC
1400*1050	24bit SC
1600*1200	24bit DC
1920*1080	24bit DC
1920*1200	24bit DC

7.6 Integrated Peripherals

This section sets configurations for your hard disk and other integrated peripherals. The first screen shows three main items for user to select. Once an item selected, a submenu appears. Details follow.


Phoenix - AwardBIOS CMOS Setup Utility
Integrated Peripherals
► OnChip IDE Device [Press Enter]
► OnChip PCI Device [Press Enter]
► Super IO Device [Press Enter]
Onboard Lan Boot ROM [Disabled]
Onboard Serial Port 3 [3E8]
Serial Port 3 Use IRQ [IRQ5]
Onboard Serial Port 4 [2E8]
Serial Port 4 Use IRQ [IRQ10]
Item Help
Menu Level ►
↑ ↓ →←:Move Enter:Select +/-/PU/PD:Value F10:Save Esc:Exit F1:Genenal Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

OnChip IDE Device
The integrated peripheral controller contains an ID E interface with support for one IDE channels. Select Enabled to activate each channel separately.

On Chip IDE Device: IDE HDD Block Mode
This field allows your hard disk controller to use the fast block mode to transfer data to and from your hard disk drive.

On Chip IDE Device: IDE Primary/Secondary Master/Slave PIO
These fields allow your system hard disk controller to work faster . Rather than have the BIOS issue a series of commands that transfer to or from the disk drive, PIO (Programmed Input/Output) allows the BIOS to communicate with the controller and CPU directly.

The system supports five modes, numbered from 0 (default) t o 4, which primarily differ in timing. When Auto is selected, the BIOS will select the best available mode.

On Chip IDE Device: **IDE Primary/Secondary Master/Slave UDMA**
These fields allow your system to improve disk I/O throughput to 33Mb/sec with the Ultra DMA/33 feature. The options are Auto and Disabled.

On Chip IDE Device: On Chip Serial ATA Device
The integrated peripheral controller contains an SATA interface with support for twp SATA channels. The default setting is Auto.

On Board Device:
The setting of Enabled allows you select USB Controller / USB2.0 Controller / USB Keyboard support / USB Mouse Enable or Disable. And you also could select Azalia/Audio. The default setting is Auto.

Onboard Serial Port
These fields allow you to select the onboard serial ports and their addresses. The default values for these ports are:

On Board Serial Port 1	Disable
	3F8/IRQ4
	2F8/IRQ3
	3F8/IRQ4
	2F8/IRQ3
On Board Serial Port 2	Disable
	3F8/IRQ4
	2F8/IRQ3
	3F8/IRQ4
	2F8/IRQ3

UART Mode Select
This field determines the UART 2 mode in your computer. The default value is Normal. Other options include IrDA and ASKIR.

Onboard Parallel Port
These fields allow you to select the onboard parallel ports and their addresses. The default values for these port is:

On Board Parallel Port	Disable
	378/IRQ7
	278/IRQ5
	3BC/IRQ7

Power On After Fail

The setting configures the system power on status when power is restored to the system after a power failure occurrence. The default setting is Off.

GIGA Lan/Lan1 Boot ROM

The setting allows you select Boot from Lan, and the default setting is Disable.

Onboard Serial Port3

These fields allow you to select the onboard serial ports and their addresses. The default values for these ports are:

On Board Serial Port 1	Disable
	3F8
	2F8
	3E8
	2E8

Serial Port3 Use IRQ

The default values for these ports are: IRQ5/IRQ10/IRQ11/IRQ12.

Onboard Serial Port4

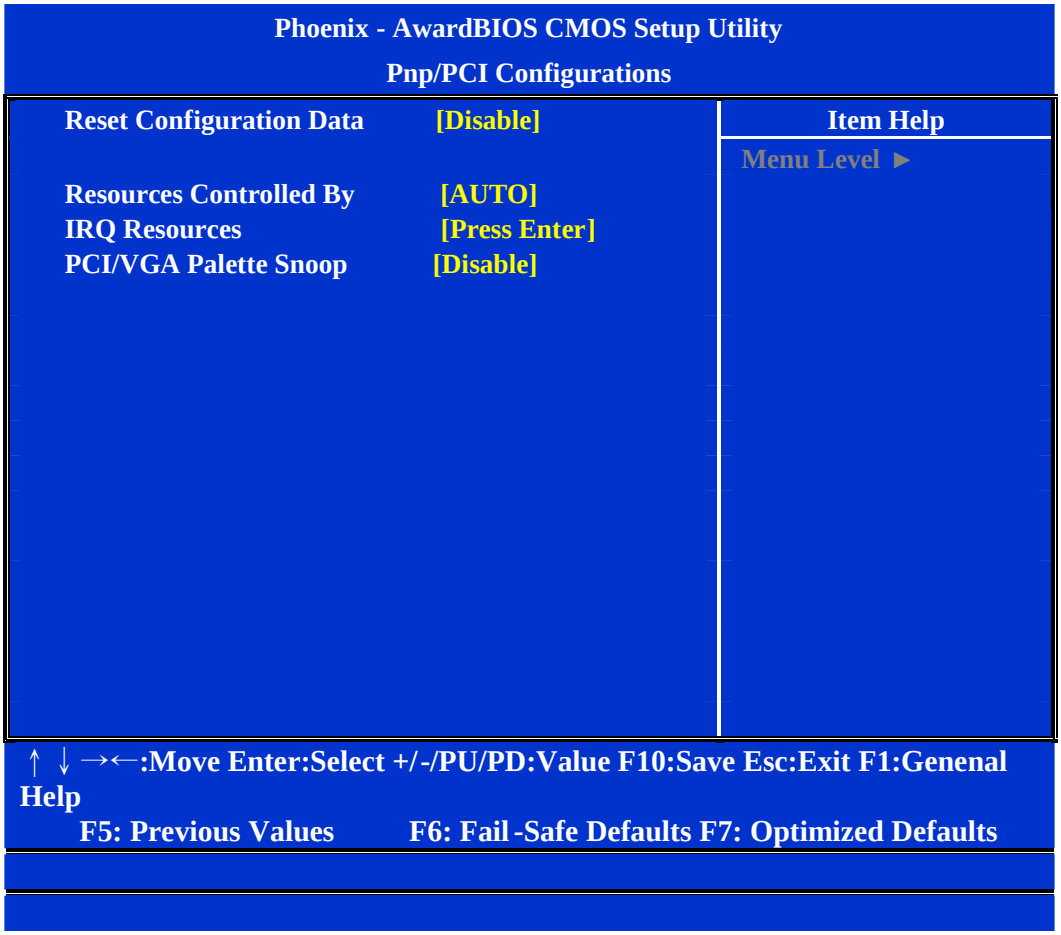
These fields allow you to select the onboard serial ports and their addresses. The default values for these ports are:

On Board Serial Port 1	Disable
	3F8
	2F8
	3E8
	2E8

Serial Port4 Use IRQ

The default values for these ports are: IRQ5/IRQ10/IRQ11/IRQ12.

7.7 PnP / PCI Configuration


Phoenix - AwardBIOS CMOS Setup Utility
Pnp/PCI Configurations
Reset Configuration Data [Disable]
Resources Controlled By [AUTO]
IRQ Resources [Press Enter]
PCI/VGA Palette Snoop [Disable]
Item Help
Menu Level ►
↑ ↓ →←:Move Enter:Select +/-/PU/PD:Value F10:Save Esc:Exit F1:Genenal Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Reset Configuration Data

This field allows you to determine whether to reset the configuration data or not. The default value is Disabled.

Resources Controlled by

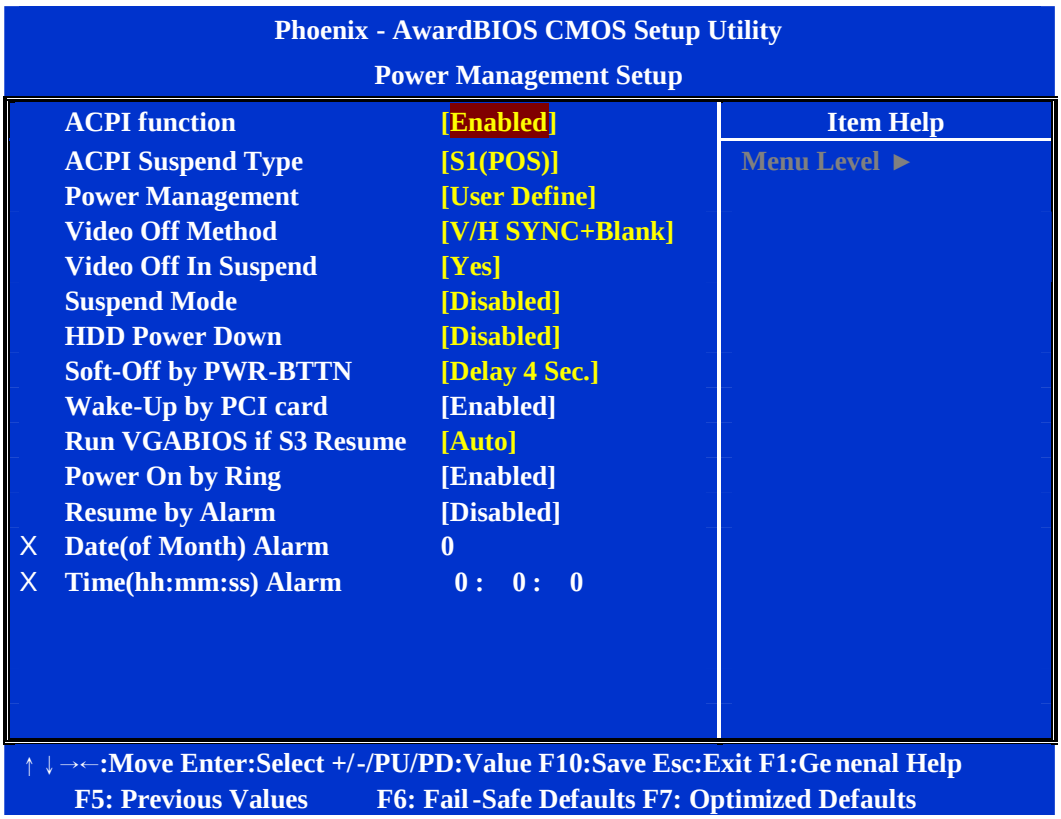
This PnP BIOS can configure all of the boot and compatible devices automatically with the use of a use a PnP operating system such as Windows 95.

PCI/VGA Palette Snoop

Some non-standard VGA display cards may not show colors properly. This field allows you to set whether or not MPEG ISA/VESA VGA cards can work with PCI/VGA. When this field is enabled, a PCI/VGA can work with an MPEG ISA/VESA VGA card. When this field is disabled, a PCI/VGA cannot work with an MPEG ISA/VESA card.

7.8 Power Management Setup

This section sets configurations for your Power Management function setting. The screen shows some items for user to select. Once an item selected, a submenu appears. Details follow.


Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup
ACPI function [Enabled]
ACPI Suspend Type [S1(POS)]
Power Management [User Define]
Video Off Method [V/H SYNC+Blank]
Video Off In Suspend [Yes]
Suspend Mode [Disabled]
HDD Power Down [Disabled]
Soft-Off by PWR-BTTN [Delay 4 Sec.]
Wake-Up by PCI card [Enabled]
Run VGABIOS if S3 Resume [Auto]
Power On by Ring [Enabled]
Resume by Alarm [Disabled]
X Date(of Month) Alarm 0
X Time(hh:mm:ss) Alarm 0 : 0 : 0
Item Help
Menu Level ►
↑ ↓ →←:Move Enter:Select +/-/PU/PD:Value F10:Save Esc:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

ACPI Function

Enable this function to support ACPI (Advance Configuration and Power Interface).

Power Management

This field allows you to select the type of power saving management modes. There are two selections for Power Management.

Min. Saving	Minimum power management
Max. Saving	Maximum power management.

User Define Each of the ranges is from 1 min. to 1hr. Except for HDD Power Down which ranges from 1 min. to 15 min.

Video Off Method

This field defines the Video Off features. There are three options.

V/H SYNC + Blank	Default setting, blank the screen and turn off vertical and horizontal scanning.
DPMS	Allows BIOS to control the video display.
Blank Screen	Writes blanks to the video buffer.

Video Off In Suspend

When enabled, the video is off in suspend mode. The default setting is Yes.

Suspend Type

The default setting for the Suspend Type field is Stop Grant.

Suspend Mode

When enabled, and after the set time of system inactivity, all devices except the CPU will be shut off.

HDD Power Down

When enabled, and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

Soft-Off by PWRBTN

This field defines the power-off mode when using an power supply. The Instant Off mode allows powering off immediately upon pressing the power button. In the Delay 4 Sec mode, the system powers off when the power button is pressed for more than four seconds or enters the suspend mode when pressed for less than 4 seconds.

Wake up by PCI Card

By default, this field is disabled.

Power On by Ring

This field enables or disables the power on of the system through the modem connected to the serial port or LAN.

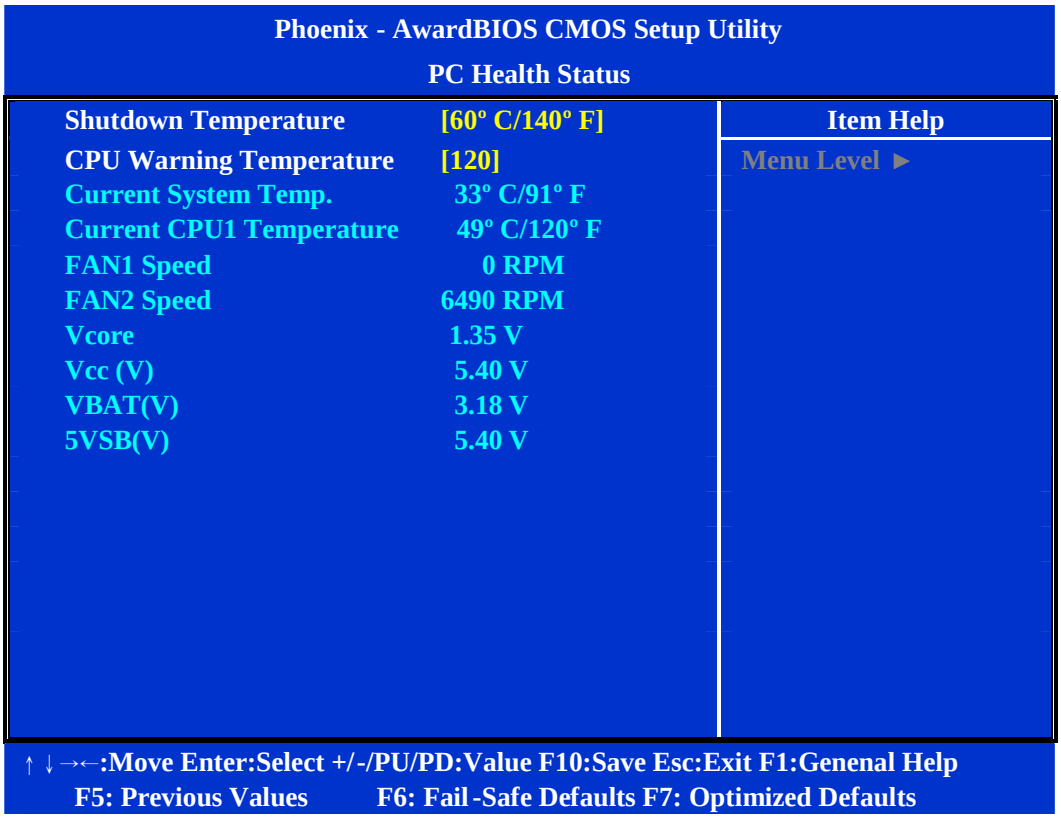
Resume by Alarm

This field enables or disables the resumption of the system operation. When enabled,

the user is allowed to set the Date and Time.

7.9 PC Health Status

This section shows the parameters in determining the PC Health Status. The se parameters include temperatures, fan speeds and voltages.


Phoenix - AwardBIOS CMOS Setup Utility
PC Health Status
Shutdown Temperature [60° C/140° F]
CPU Warning Temperature [120]
Current System Temp. 33° C/91° F
Current CPU1 Temperature 49° C/120° F
FAN1 Speed 0 RPM
FAN2 Speed 6490 RPM
Vcore 1.35 V
Vcc (V) 5.40 V
VBAT(V) 3.18 V
5VSB(V) 5.40 V
Item Help
Menu Level ►
↑ ↓ →←:Move Enter:Select +/-/PU/PD:Value F10:Save Esc:Exit F1:Genenal Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Shutdown Temperature

This field allows the user to set the temperature by which the system automatically shuts down once the threshold temperature is reached. This function can help prevent damage to the system that is caused by overheating.

CPU Warning Temperature

This field allows the user to set the temperature so that when the temperature is reached, the system sounds a warning. This function can help prevent damage to the system that is caused by overheating.

Temperatures/Voltages

These fields are the parameters of the hardware monitoring function feature of the motherboard. The values are read-only values as monitored by the system and show the PC health status.

7.10 Load Fail-Safe Defaults

This option allows you to load the troubleshooting default values permanently stored in the BIOS ROM. These default settings are non-optimal and disable all high-performance features.

7.11 Load Optimized Defaults

This option allows you to load the default values to your system configuration. These default settings are optimal and enable all high performance features.

7.12 Set Supervisor Password

These two options set the system password. Supervisor Password sets a password that will be used to protect the system and Setup utility. User Password sets a password that will be used exclusively on the system. To specify a password, highlight the type you want and press <Enter>. The Enter Password: message prompts on the screen. Type the password, up to eight characters in length, and press <Enter>. The system confirms your password by asking you to type it again. After setting a password, the screen automatically returns to the main screen.

To disable a password, just press the <Enter> key when you are prompted to enter the password. A message will confirm the password to be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

7.13 Save & Exit Setup

This option allows you to determine whether or not to accept the modifications. If you type “Y”, you will quit the setup utility and save all changes into the CMOS memory. If you type “N”, you will return to Setup utility.

7.14 Exit Without Saving

Select this option to exit the Setup utility without saving the changes you have made in this session. Typing “Y” will quit the Setup utility without saving the modifications. Typing “N” will return you to Setup utility.

Note: Digital I/O Sample Code

```
//File of the Main.cpp
//====================================== ====================
//This code is for test I570 Super I/O.
//====================================== ====================
#include <dos.h>
#include <conio.h>
#include <stdio.h>
#include <stdlib.h>

//====================================== ====================
#define W83627EHG_INDEX_PORT 0x2E
#define W83627EHG_DATA_PORT 0x2F
//====================================== ====================
#define W83627EHG_REG_LD 0x07
//====================================== ====================
#define W83627EHG_UNLOCK 0x87
#define W83627EHG_LOCK 0xAA

//====================================== ====================
void ClrKbBuf(void);
void Unlock_W83627EHG(void);
void Lock_W83627EHG(void);
void Set_W83627EHG_Reg(unsigned char,unsigned char);
unsigned char Get_W83627EHG_Reg(unsigned char);
int main ();
//====================================== ====================
int main ()
{
      unsigned char ucDO = 0; //data for digital output
      unsigned char ucDI; //data for digital input
      unsigned char ucBuf;
      Set_W83627EHG_Reg(0x07,0x07);//switch to logic device 7

//    PIN 121~128 function select
//    Bit0 = 0 -> Game Port.
```

```
//            = 1 -> GPIO1.
      ucBuf = Get_W83627EHG_Reg(0x29);
      Set_W83627EHG_Reg(0x29,ucBuf|0x01);

//   Bit0 = 0 -> GPIO1 is inactive.
//    Bit1 = 1 -> Activate GPIO1.
      ucBuf = Get_W83627EHG_Reg(0x30);
      Set_W83627EHG_Reg(0x30,ucBuf|0x01);//Activate GPIO1

      Set_W83627EHG_Reg(0xF0,0x0F);//switch GPIO Input(1)/Output(0) port

      Set_W83627EHG_Reg(0xF1, 0x00); //clear
      ucDI = Get_W83627EHG_Reg(0xF1) & 0x0F;
      ClrKbBuf();
      while(1)
      {
            ucDO++;
            Set_W83627EHG_Reg(0xF1, ((ucDO & 0x0F) << 4));
            ucBuf = Get_W83627EHG_Reg(0xF1) & 0x0F;
            if (ucBuf != ucDI)
            {
                  ucDI = ucBuf;
                  printf("Digital I/O Input Changed. Current Data is 0x%X\n",ucDI);
            }
            if (kbhit())
            {
                  getch();
                  break;
            }
            delay(500);
      }
      return 0;
}
//=====================================================================
void ClrKbBuf(void)
{
      while(kbhit())
      { getch(); }
```

```
}
//---------------------------------------------------------------------------

void Unlock_W83627EHG (void)
{
	outportb(W83627EHG_INDEX_PORT, W83627EHG_UNLOCK);
	outportb(W83627EHG_INDEX_PORT, W83627EHG_UNLOCK);
}
//===================================== ======================
void Lock_W83627EHG (void)
{
	outportb(W83627EHG_INDEX_PORT, W83627EHG_LOCK);
}
//===================================== ======================
void Set_W83627EHG_Reg( unsigned char REG, unsigned char DATA)
{
	Unlock_W83627EHG();
	outportb(W83627EHG_INDEX_PORT,  REG);
	outportb(W83627EHG_DATA_PORT, DATA);
	Lock_W83627EHG();
}
//===================================== ======================
unsigned char Get_W83627EHG_Reg( unsigned char REG)
{
	unsigned char Result;
	Unlock_W83627EHG();
	outportb(W83627EHG_INDEX_PORT, REG);
	Result = inportb(W83627EHG_DATA_PORT);
	Lock_W83627EHG();
	return Result;
}
//===================================== ======================
```